

## Through the looking glass: Adjusting to the 'new normal' post-COVID-19

For more than two years, the COVID-19 pandemic put unprecedented pressure on society, people, hospitals, and healthcare systems, causing over 6.5 million deaths worldwide.<sup>1</sup> It heavily disrupted access to early detection, screening, diagnosis, care, and treatment for people living acute and chronic non-COVID related diseases. This dramatically impacted their day-to-day life, leading to a worsening of their conditions and often increased mortality. The overwhelming effect of the pandemic on European national health systems further exposed their unpreparedness for managing such unexpected challenges and created a significant backlog of patients with serious acute and chronic health conditions in need of extra care, treatment, and support.

In the face of COVID-19 emergency, essential hospital services were interrupted, elective surgeries were cancelled, and new diagnoses and treatments were deprioritised due to lack of healthcare resources.<sup>2</sup> Moreover, patients felt scared and unsafe to present themselves to hospitals and other care services for fear of contracting the virus, which jeopardised their health as a result.<sup>3</sup>

### Cardiovascular Disease Case study

Cardiovascular disease and Structural Heart Disease were found to be key co-morbidities in COVID-19 complications and mortality.<sup>4</sup> Patients suffering from these conditions were doubly hit during the pandemic's first waves: up to 60% of heart disease patients were denied treatment<sup>5 6</sup> and 50% did not seek diagnosis when suffering from heart-related symptoms<sup>7</sup>, despite existing medical guidelines that underlined the importance of diagnosis, monitoring and treatment during the pandemic.

### Diabetes Case Study

People living with diabetes are at greater risk of developing serious COVID-19 symptoms than the general population<sup>8 9 10</sup> as well as double the likelihood of needing to be hospitalized.<sup>11</sup> Furthermore, the

<sup>1</sup> World Health Organization (2022). [Coronavirus \(COVID-19\) Dashboard With Vaccination Data](#).

<sup>2</sup> COVIDSurg Collaborative (2020). [Elective surgery cancellations due to the COVID-19 pandemic: global predictive modelling to inform surgical recovery plans](#).

<sup>3</sup> MedTech Europe (2021). [An EU Action Plan for Better Cardiovascular Health](#).

<sup>4</sup> The European Society for Cardiology (2021). [ESC Guidance for the Diagnosis and Management of CV Disease during the COVID-19 Pandemic](#).

<sup>5</sup> Shoib, A, et al. (2021). [Substantial decline in hospital admissions for heart failure accompanied by increased community mortality during COVID-19 pandemic](#). In: European Heart Journal – Quality of Care and Clinical Outcomes.

<sup>6</sup> Mohamed, M. O., et al. (2020). [Impact of COVID-19 on cardiac procedure activity in England and associated 30-day mortality](#). In: EHJ-QCCO, European Heart Journal – Quality of Care and Clinical Outcomes.

<sup>7</sup> Wu, J., et al. (2020). [Place and causes of acute cardiovascular mortality during the COVID-19 pandemic](#). In: BMJ Journals – Heart.

<sup>8</sup> Mantovani, A., et al. (2020). [Diabetes as a risk factor for greater COVID-19 severity and in-hospital death: A meta-analysis of observational studies](#). In: Nutrition, Metabolism & Cardiovascular Disease.

<sup>9</sup> McGurnaghan, S. J., et al. (2020). [Risks of and risk factors for COVID-19 disease in people with diabetes: a cohort study of the total population of Scotland](#). In: The Lancet, Diabetes Endocrinol.

<sup>10</sup> Centers for Disease Control and Prevention (2020). [Morbidity and Mortality Weekly Report](#). Preliminary Estimates of the Prevalence of Selected Underlying Health Conditions Among Patients with Coronavirus Disease 2019.

<sup>11</sup> Choudhary, P. et al. (2021). [The Challenge of Sustainable Access to Telemonitoring Tools for People with Diabetes in Europe: Lessons from COVID-19 and Beyond](#). In: Springer Link.

pandemic negatively impacted diabetes self-management<sup>12</sup> and led to disruptions in care.<sup>13 14</sup> These circumstances have taken a negative psychological toll on people living with diabetes, who have experienced an increase in anxiety, distress and depression.<sup>15 16</sup> In addition to the disproportionate impact of COVID-19 on people living with diabetes, research indicates that those who have had COVID-19 are more likely to develop diabetes<sup>17</sup>. Amongst other co-morbidities, chronic kidney disease and cardiovascular disease are two major comorbidities that increase the mortality rates of patients with diabetes with COVID-19.<sup>18</sup>

### Chronic Kidney Disease Case Study

Patients with Chronic kidney disease (CKD) are at a particularly increased risk of COVID-19-related mortality and disease severity, especially those with advanced CKD stages.<sup>19</sup> Despite much published evidence, the significance of CKD as an underlying condition for severe COVID-19 remains poorly understood.<sup>20</sup> The risk of hospitalisations increases twofold in CKD patients with COVID-19 compared to those without CKD. In addition, twice as many patients with CKD are likely to develop acute kidney injury, leading to serious illness, dialysis and often death.<sup>21</sup> Barriers to accessing home dialysis became a matter of life and death for many patients with kidney failure during the COVID-19 pandemic.<sup>22</sup>

### Lymphedema and Lipedema Case Study

People living with lipedema and lymphedema were facing considerable challenges during the COVID-19 pandemic regarding delay of access to treatment and rehabilitation.<sup>23</sup> The development of new lymphedema and related symptoms has also been reported in breast cancer patients due to an increase in household chores.<sup>24</sup>

<sup>12</sup> International Diabetes Federation (2021). [Living in COVID Times: Experiences from People living with Diabetes.](#)

<sup>13</sup> International Diabetes Federation (2021). [Living in COVID Times: Experiences from People living with Diabetes.](#)

<sup>14</sup> Nagi, D.K. et al. (2021). [ABCD position statement on risk stratification of adult patients with diabetes during COVID-19 pandemic](#) *British Journal of Diabetes*. In: The British Journal of Diabetes.

<sup>15</sup> International Diabetes Federation (2021). [Living in COVID Times: Experiences from People living with Diabetes.](#)

<sup>16</sup> Forde, R. et al. (2021). [The impact of the COVID-19 pandemic on people with diabetes and diabetes services: A pan-European survey of diabetes specialist nurses undertaken by the Foundation of European Nurses in Diabetes survey consortium.](#) In: National Library of Medicine.

<sup>17</sup> Watson, C. [Diabetes risk rises after COVID, massive study finds](#)

<sup>18</sup> Feldman, E. L. et al. (2020). [COVID-19 and Diabetes: A Collision and Collusion of Two Diseases.](#) In: American Diabetes Association.

<sup>19</sup> Jdiaa, S. S., et al. (2022). [COVID-19 and chronic kidney disease: an updated overview of reviews.](#) In: National Library of Medicine.

<sup>20</sup> Dorjee, K., et al. (2020). [Prevalence and predictors of death and severe disease in patients hospitalized due to COVID-19: A comprehensive systematic review and meta-analysis of 77 studies and 38,000 patients.](#) In: PLOS ONE

<sup>21</sup> National Kidney Association (2022). [Kidney Disease and Covid 19.](#)

<sup>22</sup> Vivekanand, J., et al. (2022). [Peritoneal catheter insertion: combating barriers through policy change.](#) In: Clinical Kidney Journal.

<sup>23</sup> Forner Cordero, I., et al. (2020). [La atención al paciente con patología linfática y lipedema en la pandemia COVID-19. Recomendaciones del Grupo Español de Linfología \(GEL\).](#) In: National Library of Medicine.

<sup>24</sup> Memnun, S., et al. (2021). [Experiences of breast cancer survivors during the COVID-19 pandemic: a qualitative study. Supportive Care in Cancer.](#) In: National Library of Medicine.

Lymphedema patients affected by the COVID-19 pandemic were mostly younger patients, individuals with primary lymphedema, individuals with non-malignant etiology, individuals who were unable to walk regularly, and those unable to perform self-MLD.<sup>25</sup>

Weight gain during the pandemic was a common problem among lymphedema patients and a majority did not perform or skipped self-care methods. The incidence of sleep problems and feelings of anxiety and stress in this patient population was also high. In addition, many patients had economic issues, which might have influenced sustained management of lymphedema.<sup>26</sup> Due to lack of access to sporting facilities (e.g., access to swimming pools), patients were not able to exercise on a regular basis, which is an important pillar of lymphedema treatment.<sup>27</sup>

Despite the early introduction of telemedicine, virtual care presents a challenging opportunity for health services. It was difficult to assess complex patient information without visual information, and the reliance on patient description alone was a challenge.<sup>28</sup>

Patients with lymphedema needed to apply to lymphedema units and medical companies for follow-up and renewing their pressure garments, but very few of them could reach these centres.

As we slowly progress to the endemic stage, collaboration is needed to ensure that immediate and longer-term challenges, such as ageing and lifestyle, can be addressed to relieve pressure on healthcare systems. The European Union (EU) has recently declared an end to the emergency phase of the COVID-19 pandemic and urged all stakeholders, from citizens to governments, health authorities and healthcare professionals, to build on lessons learnt from the pandemic to strengthen healthcare resilience and protect the health of European citizens.<sup>29</sup>

Simultaneously, the EU has launched and strengthened several funding programmes, such as the *EU4Health* Programme and the *NextGenerationEU* to build resilient healthcare systems, carry out the digital transformation, and ensure Member States have appropriate means to recover economically. Member States can now leverage increased budget and recovery funds to ensure healthcare resilience and preparedness to deal with future challenges and health threats.

Building on the lessons we learnt from the COVID-19 pandemic means adopting a different and more holistic management of healthcare systems. This can be done by significantly reducing the pressure on hospital settings through an increased focus on community care, as well as increasing the quantity of available

<sup>25</sup> Begoğlu F.A. et al. (2022). [Health Status, Coronaphobia, Quality of life, anxiety and depression in patients with lymphedema during COVID-19 pandemic](#). In: Journal Lymphology.

<sup>26</sup> Borman, P. et al. (2022). [The Impact of COVID-19 Lockdown on Patients with Lymphedema](#). In: Lymphatic Research and Biology.

<sup>27</sup> Longhurst, S. (2022). [Conservative management of massive localised lymphoedema using compression wraps: a case study](#). In: World Health Organization.

<sup>28</sup> Gabe-Walters, M., et al. (2021). [Challenges and opportunities identified for lymphoedema services in Wales during the COVID-19 pandemic](#). In: British Journal of Nursing.

<sup>29</sup> European Commission (2022). [COVID-19 – Sustaining EU Preparedness and Response: Looking ahead](#).

healthcare professionals and the quality of working conditions for them to better cope with expected COVID-19 peaks. This would allow them to continue delivering detection, treatment, and quality care for both COVID-19 patients and non-COVID-19 patients, such as patients suffering from acute and chronic conditions including cardiovascular disease, diabetes, kidney disease, and lymphedema and lipedema.

### **Building back better and more resilient healthcare systems should include:**

1. **Improved access to early screening and diagnosis**, through the deployment of screening programmes which support risk stratification and optimised patient pathways and increase early identification of specific conditions, as well as **upskilling healthcare professionals through training**, especially nurses and primary care specialists. Early detection may also allow for early interventions and treatments to prevent progressive conditions from becoming irreversible and leading to physical decline and dependency, as well as recurrent hospitalisations.
2. **Expedited plannings for hospital preparedness**. National healthcare systems should develop plans to improve hospital preparedness and manage the response to COVID-19 in the event of future waves. These should allow for a consistently high standard of care during peaks of COVID-19 without disrupting access to other services and surgery. Plans should also specifically address the ways to reduce waiting lists and backlogs in hospital care and therapy interventions, both during future COVID-19 waves and in any other public health emergency.<sup>30</sup>
3. **Appropriate funding to support the uptake enabling access to innovation and digital health solutions for greater hospital care efficiencies and homecare patients' self-management**. Adopting and deploying labour-saving, and capacity-enhancing healthcare innovations such as minimal invasive therapies can reduce ICU dependencies and reduce the length of hospital stays, therefore improving patient outcomes.<sup>31 32</sup> Digital and AI-based solutions can also reduce process costs and time therefore increasing healthcare workers satisfaction and quality of care.<sup>33 34</sup> Furthermore, digitally enabled solutions can improve patients' self-management, leading to better clinical outcomes and fewer severe complications requiring hospitalisations.<sup>35 36</sup>

---

<sup>30</sup> Organization for Co-operation and Development (2022). [OECD Policy Responses to Coronavirus \(COVID-19\). First lessons from government evaluations of COVID-19 responses: A synthesis.](#)

<sup>31</sup> Choudhary, P., et al. (2021). [The Challenge of Sustainable Access to Telemonitoring Tools for People with Diabetes in Europe: Lessons from COVID-19 and Beyond.](#) In: National Library of Medicine.

<sup>32</sup> Hu, Y., et al. (2019). [Outcomes from different minimally invasive approaches for infected necrotizing pancreatitis.](#) In: National Library of Medicine.

<sup>33</sup> Jiang, S., et al. (2018). [A Universal Deep Learning Approach for Modeling the Flow of Patients Under Different Severities.](#) In: Prime PubMed.

<sup>34</sup> European Parliamentary Research Service (2022). [Artificial Intelligence in healthcare. Applications, risks, and ethical and societal aspects.](#)

<sup>35</sup> Martens, T., et al. (2021). [Effect of Continuous Glucose Monitoring on Glycemic Control in Patients With Type 2 Diabetes Treated With Basal Insulin: A Randomized Clinical Trial.](#) In: National Library of Medicine.

<sup>36</sup> Norris S. L., et al. (2001). [Effectiveness of self management training in type 2 diabetes: a systematic review of randomized controlled trials.](#) In: National Library of Medicine.

- 4. Appropriate funding and reimbursement of healthcare services delivered in community care settings.** Effective community care significantly reduces the pressure on hospital settings. One clear example of this is transitioning patients from the inpatient setting to the lower cost outpatient setting, and continuous remote monitoring<sup>37</sup>. However, homecare services and community-based care are difficult to access, as they are underdeveloped in many countries. This is because investment into community care, and the digital technologies that make it possible, draws little investment interest, given that services in this setting are rarely fit into existing reimbursement and coverage.<sup>38</sup> Breaking down silo budgeting structures for the treatment of people with chronic conditions can help ensure patients receive consistent, high-quality care across all care settings. Realising the full benefit of community care means investing in the infrastructure that will deliver effective community care, including public awareness. This will provide a further step towards sustainable, cost-effective healthcare systems.

The global COVID-19 pandemic is unfortunately not over. However, as the EU adjusts to the ‘new normal’, it is crucial that Member States leverage funding mechanisms and opportunities within initiatives such as the *European Health Data Space*, the *Healthier Together – EU NCD Initiative*, or the *Pharmaceutical Strategy for Europe* to invest into resilient healthcare systems, innovative and efficient care provision – in the hospital, the community and at home. This will lead to improved patient outcomes, and ensure no patient is left behind in the event of another cross-border health emergency.

### About MedTech Europe

MedTech Europe is the European trade association for the medical technology industry including diagnostics, medical devices, and digital health. The MedTech Europe Cardiovascular Group represents national, European, and multinational companies who research, develop, manufacture, distribute and supply technologies, services, and solutions for the delivery of care and improvement of outcomes for people affected by cardiovascular diseases.

For more information, visit [www.medtecheurope.org](http://www.medtecheurope.org).

---

<sup>37</sup> MedTechEurope, COCIR, et al. (2018). "[Proposed Guiding Principles for Reimbursement of Digital Health Products and Solutions](#)".

<sup>38</sup> European Commission (2018). "[Challenges in long-term care in Europe: a study of national policies](#)".