

Coronavirus Disease Programme

August 2020

Summary

On March 11th, 2020, the World Health Organization (WHO) declared the coronavirus (COVID-19) a pandemic with over 123 countries worldwide being affected by the disease. Recognizing the vital role rehabilitation professionals have in managing the impact of the coronavirus disease (COVID-19), Physiopedia quickly identified the need for a rehabilitation focused course that would inform physiotherapists/physical therapists on their role during the pandemic.

On March 16th, 2020, Physiopedia released a Massive Open Online Course (MOOC) entitled "[Coronavirus Disease Programme](#)" via the Physioplus online learning platform. This MOOC aimed to provide practicing physiotherapists/physical therapists with the knowledge, practices and skills to allow them to play a proactive role in global and local efforts to reduce the impact of this pandemic. The Coronavirus disease programme will stay open as a free course available to anyone with an internet connection until the end of the year (December 2020).

The Coronavirus Programme consists of four modules: 1) understanding coronavirus disease, 2) infection prevention and control, 3) role of physiotherapy in COVID-19 and 4) respiratory management of people with COVID-19. The programme aimed to assist in the understanding, identification, containment, mitigation and treatment of COVID-19 through 10 hours of self-directed learning involving videos, reading, forum discussions and quizzes. To complete the overall programme, and receive a course completion certificate, the learner had the option to submit and pass a written assignment.

Course Type: Free, Open, Online

Institution: Physiopedia

About this course: This MOOC aimed to provide practicing physiotherapists/physical therapists with the knowledge, practices and skills to allow them to play a proactive role in global and local efforts to reduce the impact of this pandemic.

Target audience: This course was developed for physiotherapy and physical therapy professionals, clinicians, students and assistants. However, it is open to the public and learners from all healthcare backgrounds who were interested in this subject were more than welcome to participate.

Time commitment: 10 hours of learning

Date: The course was released on March 16th, 2020 and will remain open to the public until the end of the year (December 31st, 2020). The following report will focus on the first 8 weeks (March 16th - May 10th, 2020).

Requirements: The course will be available to all learners until December 31st, 2020. The course will take approximately 10 hours to complete (depending on the learners' schedules and learning styles). Additionally, throughout the courses, optional resources are provided and if the learner chooses to review these the course may take longer to complete.

Types of Activities:

- Reading topic summaries and journal articles
- Watching online videos
- Quizzes
- Participating in an international discussion forums
- Course reflections

Assessment: There is a final quiz at the end of each course, and participants had the option to complete a final assignment to demonstrate the knowledge gained from all four courses.

Awards: 4-course completion certificates awarding a total of 10 Physioplus (P+) points.

Registrations: This was a unique MOOC for Physiopedia, participants were not required to register in advance for the MOOC. To access the course participants signed up for a free trial Physio Plus membership. During the first 8 weeks the course was available over 166,000 learners visited and engaged with the course content.

Countries represented: 214

Acknowledgments

The Coronavirus disease programme was developed and delivered by Physiopedia. To support open access and ensure that physiotherapists/physical therapists continue to share relevant knowledge, information, and resources, the Coronavirus disease programme will be free until the end of the year (December 31st, 2020). Physiopedia has been able to continually update this course as new knowledge becomes available, create new courses on COVID-19, and provide 10 months of free access to these courses through the generous support of [World Physiotherapy](#).

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Course information link: [https://www.physio-pedia.com/Coronavirus \(COVID-19\) Course](https://www.physio-pedia.com/Coronavirus_(COVID-19)_Course)

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Introduction

On March 11th, 2020, the World Health Organization (WHO) declared the coronavirus (COVID-19) a pandemic with (at the time) over 123 countries around the world being affected by the disease. Physiotherapists have a vital role in managing the impact of this disease but physiotherapists needed access to the knowledge and resources that would allow them to play a proactive role in global and local efforts to reduce the impact of the pandemic.

Recognizing the vital role rehabilitation professionals have in managing the impact of the coronavirus disease (COVID-19), Physiopedia quickly identified the need for a rehabilitation focused course that would inform physiotherapists/physical therapists on their role during the pandemic.

On March 16th, 2020, Physiopedia launched its 9th Massive Open Online Course (MOOC) entitled the “Coronavirus disease programme.” The MOOC was delivered as a programme of four courses and an optional written final assignment.

We are currently living through an unprecedented global health crisis resulting from a pandemic caused by a novel Coronavirus disease. Many of the elderly, vulnerable and also our fellow frontline healthcare workers will bear the brunt of this crisis, however, the physiotherapy/physical therapy profession also has an important role to play. This series of online courses will explore the nature of this outbreak and how we can play our part in mitigating this crisis. Coronaviruses are a family of viruses that cause illnesses such as respiratory or gastrointestinal diseases. In January 2020 a previously unknown coronavirus was identified in Wuhan China. It mainly presents with respiratory symptoms, fever and can result in severe acute respiratory distress in high-risk populations.

One of the earliest messages to emerge was the importance of implementing procedures and techniques for infection prevention, to limit healthcare-acquired infections as well as control the general spread of epidemics and pandemics. A key component of this is basic hand hygiene which forms the foundation of infection control. The use of personal protective equipment (PPE) such as gloves, masks, gowns and goggles allows health care personnel to treat patients with communicable diseases while protecting themselves and others. The procedures for putting on (donning) and taking off (doffing) of PPE needs to follow specific sequencing and techniques in order to ensure best infection control and prevention practices.

Due to the respiratory nature of the virus, this course will provide an overview of the role of the physiotherapist in the management of patients with COVID-19 in the acute hospital setting and also in the rehabilitation following recovery from the disease. This is an important aspect of management in individuals with COVID-19 as approximately 15% of diagnosed patients will develop moderate to severe disease and require hospitalisation and oxygen support, with a further 5% who require admission to an Intensive Care Unit and supportive therapies including intubation and ventilation. The most common complication in severe COVID-19 patients is severe pneumonia,

but other complications may include Acute Respiratory Distress Syndrome (ARDS), Sepsis and Septic Shock, Multiple Organ Failure, including Acute Kidney Injury and Cardiac Injury.

Aim

This course aims to provide an introductory insight into this novel coronavirus and includes its clinical presentation, diagnosis, management and the prevention of transmission. Including advice on infection prevention and control and specifically reviews procedures and policies for hand hygiene and personal protective equipment.

It also explains the role physiotherapists play in managing issues related to the COVID-19 disease from case identification, limiting transmission in different clinical settings, including an acute hospital setting, and treating patients with mild, moderate and severe symptoms

The course was delivered through the Physioplus (P+) online learning platform, an innovative platform specifically developed to provide online education and support learners with a personalised learning dashboard. For each course, the related learning activities were released on a specific course page. Participants engaged with each course learning activity, and their activity was recorded and displayed in their personal learning dashboard.

A course was considered complete once the learner finished all required learning activities and successfully passed the final quiz at the end of each course. There was also an optional written assignment designed to demonstrate the knowledge gained from all four courses. On completion of each course, the participants had the option to download a completion certificate and export a record of their learning from their activity log.

This report evaluates the experiences and engagement of the participants on the Coronavirus disease programme MOOC during the first 16 weeks (March 16th - May 10th).

1.0 About the Programme of Courses

1.1 Aim

This course aims to provide an introductory insight into this novel coronavirus and includes its clinical presentation, diagnosis, management and the prevention of transmission. Including advice on infection prevention and control and specifically reviews procedures and policies for hand hygiene and personal protective equipment.

It also explains the role physiotherapists play in managing issues related to the COVID-19 disease from case identification, limiting transmission in different clinical settings, including an acute hospital setting, and treating patients with mild, moderate and severe symptoms

The global network formed through this course will allow for shared knowledge and experiences to support good health care and a better quality of life for individuals with a traumatic brain injury around the world

1.2 Learning Objectives

At the end of this programme of courses, participants were able to:

1. Describe COVID-19 in terms of the virus strain, transmission, incubation period, and case definitions
2. Correctly identify COVID-19 symptoms, high-risk populations, and reasons for emergency medical treatment
3. Explain infectious disease in terms of direct and indirect transmission of microorganisms, susceptible persons, and standard precautions
4. Identify strategies for environmental cleaning and disinfecting and the importance of proper hand hygiene
5. Describe practices that will help to limit the transmission of COVID-19
6. Plan early identification strategies of COVID-19 in your clinical setting
7. Understand self-isolating protocols that patients and families/carers can follow to reduce the transmission of COVID-19
8. Select appropriate physiotherapy interventions for patients with COVID-19 who have respiratory symptoms
9. List the most common complication seen in hospitalised patients with COVID-19
10. Correctly identify the type of cough and sputum load in patients with COVID-19
11. Discuss which procedures are aerosol-generating and which precautions to take
12. Describe non-invasive and invasive mechanical ventilation in terms of uses, settings, precautions, and preventing complications
13. Identify when a patient with COVID-19 is appropriate for a respiratory physiotherapy referral

1.3 Intended Audience

This course is aimed at physiotherapy and physical therapy professionals, clinicians, students and assistants; other interested health care professionals interested in this subject are more than welcome to participate

1.4 Cost to participants

The course is free to all participants who complete the course before December 31st 2020. The course will remain free to all residents of low-income countries.

1.5 Course availability

The programme of courses started on March 16th 2020 when the first course was made available. A new course was released each Monday for 3 weeks. Participants have until December 31st, 2020 to complete the courses under their free trial access to Physioplus. The course will remain available on the Physioplus platform to members; membership is free to individuals from low-income countries and available at a discounted rate to individuals in middle-income countries.

1.6 Courses, Course Awards and Accreditation

Four individual courses were created for the Coronavirus disease programme.

Course 1: Understanding coronavirus disease

Course 2: Infection prevention and control

Course 3: Role of physiotherapy in COVID-19

Course 4: Respiratory management of people with COVID-19

Physiopedia provided course completion certificates to all participants that passed each of the four courses within the programme.

The Coronavirus disease programme was accredited by Texas Physical Therapy Association and the South African Society of Physiotherapy.

2.0 Demographics of the Participants

2.1 Country

Between March 16th and May 10th, 2020, 166,870 learners visited and engaged with the course content. The learners came from 214 countries. 358, 611 sessions were logged during the first eight weeks. The top 5 countries that engaged with the course during the first 8 weeks were: India, the UK, the United states, Canada and the Netherlands (see **Table 1**).

Table 1: Number of logged sessions in the first 8 weeks by the top 10 countries

| Country | n (%) |
|----------------|-----------------|
| India | 59, 552 (16.6%) |
| United Kingdom | 31, 894 (8.9%) |
| United States | 24, 276 (6.8%) |
| Canada | 19,328 (5.4%) |
| Netherlands | 15,512 (4.3%) |
| Australia | 15,498 (4.3%) |
| Ireland | 14,507 (4.0%) |
| Egypt | 12, 556 (3.5%) |
| Pakistan | 11,293 (3.2%) |
| Nigeria | 10,668 (3.0%) |

Data are numbers (n) and percentages (%); where N is the number of logged sessions in the first 8 weeks (358, 611)

Note: Previous Physiopedia MOOC reports have described participant demographic information such as professions, professional roles, years of experience and reasons for beginning the course. This MOOC was unique for Physiopedia. Since the goal was to make the content available to as many individuals as possible, in a timely manner, participants did not need to register to begin the course, participants simply signed up for a trial account on PhysioPlus.

3.0 Engagement of the Participants

3.1 Platform

The Coronavirus disease programme and the associated four courses were delivered on Physioplus.

3.2 Engagement

10,102 individuals completed the first course (understanding coronavirus disease). 5,813 completed the second course (infection prevention and control). 6,525 completed the 3rd course (role of physiotherapy) and 4,540 completed the fourth and final course (respiratory management of people with COVID-19). **Table 2** displays the number of users that began and completed each course, the number of learning activities logged and the total number of Physioplus (PP+) points awarded. To complete each course participants were required to fully engage with all the related required learning activities and pass the course quiz. To pass the final course quiz learners had to receive a grade of 80% or higher. Once the quiz and all learning requirements were successfully completed, Physioplus points (P+; equivalent to hours of learning) and a completion certificate were awarded. **Table 3** displays the course retention rate for each course. For the purposes of this report course retention rate is the percentage of learners who began and completed the course. Course retention rate ranged from 55-60% for courses 1-4, which would be considered high when compared to reported rates in the literature, which range from 6-10% (Reich, 2019).

Table 2: Course engagement

| | Course 1 | Course 2 | Course 3 | Course 4 | Coronavirus disease Programme |
|-----------------------------------|----------|----------|----------|----------|-------------------------------|
| Number users started course | 17,353 | 10,859 | 10,869 | 8,194 | 2,792 |
| Number users completed course | 10,102 | 5,813 | 6,525 | 4,540 | 39 |
| Number learning activities logged | 54,591 | 65,504 | 27,577 | 30,455 | 6,767 |
| Total PP+ points awarded | 16,089 | 16,281 | 7,339 | 10,318 | 1,645 |

Data are numbers (N) of learners

Reich J, Ruipérez-Valiente JA. The MOOC pivot. Science. 2019 Jan 11;363(6423):130-1.

Table 3: Course retention rate

| | Course 1 | Course 2 | Course 3 | Course 4 | Coronavirus disease Programme |
|---|----------|----------|----------|----------|-------------------------------|
| Number users started course (n) | 17,353 | 10,859 | 10,869 | 8,194 | 2,792 |
| Number users completed course (n) | 10,102 | 5,813 | 6,525 | 4,540 | 39 |
| Course retention rate (%) | 58% | 53% | 60% | 55% | 1.3% |
| Data are numbers (n) and percentages (%); course retention rate is described as a % of completions compared to starters | | | | | |

3.3 Discussion Forums

Each course contained an optional discussion form. Learners were encouraged to engage with knowledge users from around the world on different topics associated with the course. These discussions were intended to provide a rich learning experience to the learner through self-reflection and community engagement. **Table 4** presents the number of discussion posts for each of the four courses. There were a total of 1,255 discussion posts over the first 8 weeks of the programme.

Table 4: Discussion forum posts

| | Course 1 | Course 2 | Course 3 | Course 4 |
|----------------------------|----------|----------|----------|----------|
| Number of discussion posts | 460 | 391 | 211 | 193 |

Data are number (n) of individual posts.

3.4 Final Assignment

An optional final assignment was designed to have the learner reflect on their learning and use the knowledge gained throughout the courses. Participants were asked to follow the [assignment guidelines](#) on Physiopedia and the Physiopedia team assessed the submitted assignments. To successfully pass the final assignment, learners needed to demonstrate: evidence of learning from the course, academic skill with evidence-based writing, and proper referencing. Assignments had to be written in English. A total of 376 assignments were submitted and 50 of these assignments met the assignment requirements and were rewarded with a passing grade.

4.0 Participant Feedback

4.1 Course feedback

After the completion of each of the four courses, learners had the option to share their feedback on the course. The learners were asked to rate their overall opinion of the course on a 5-point scale ranging from excellent to poor. 85.5-90.5% of the respondents rated the courses as either great or excellent. **Table 5 and Figures 1 to 4** display the results for each course.

Table 5: Participant feedback for each course

| | Course 1 | Course 2 | Course 3 | Course 4 |
|-----------------|--------------|--------------|-------------|-------------|
| Excellent (5) | 2009 (59.0%) | 1448 (54.6%) | 903 (55.7%) | 676 (55.5%) |
| Great (4) | 1072 (31.5%) | 861 (32.4%) | 490 (30.2%) | 363 (30.0%) |
| Good (3) | 292 (8.6%) | 314 (11.8%) | 194 (12.0%) | 147 (12.0%) |
| Average (2) | 17 (0.5%) | 22 (0.85) | 22 (1.4%) | 26 (2.1%) |
| Poor (1) | 13 (0.4%) | 7 (0.3%) | 10 (0.6%) | 3 (0.2%) |
| Total responses | 3404 | 2654 | 1622 | 1219 |

Data are numbers (n) and percentages (%)

Figure 1: Overall course rating for the Introduction to Coronavirus Disease (COVID19) (n=3404)

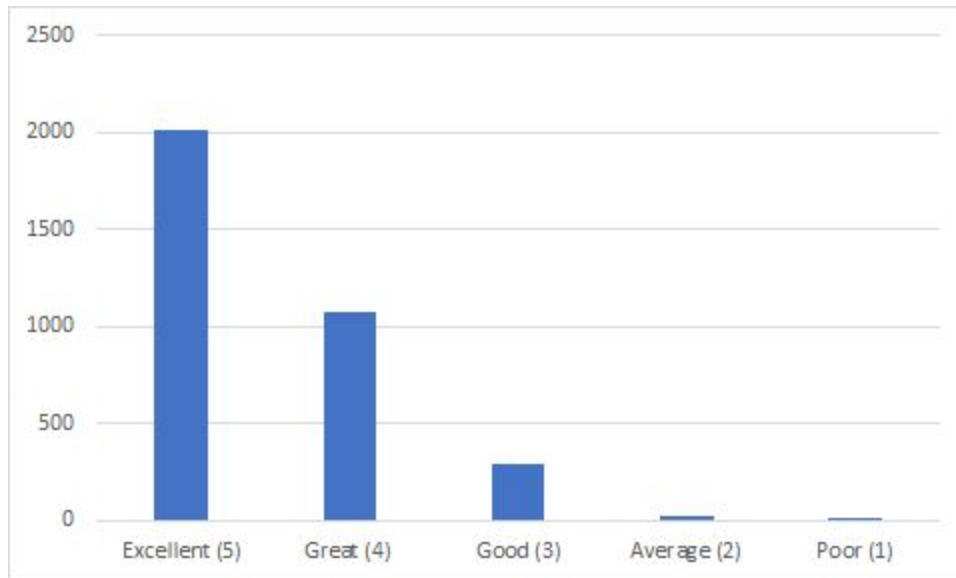


Figure 2: Overall course rating for the Infection Prevention and Control (n=2654)

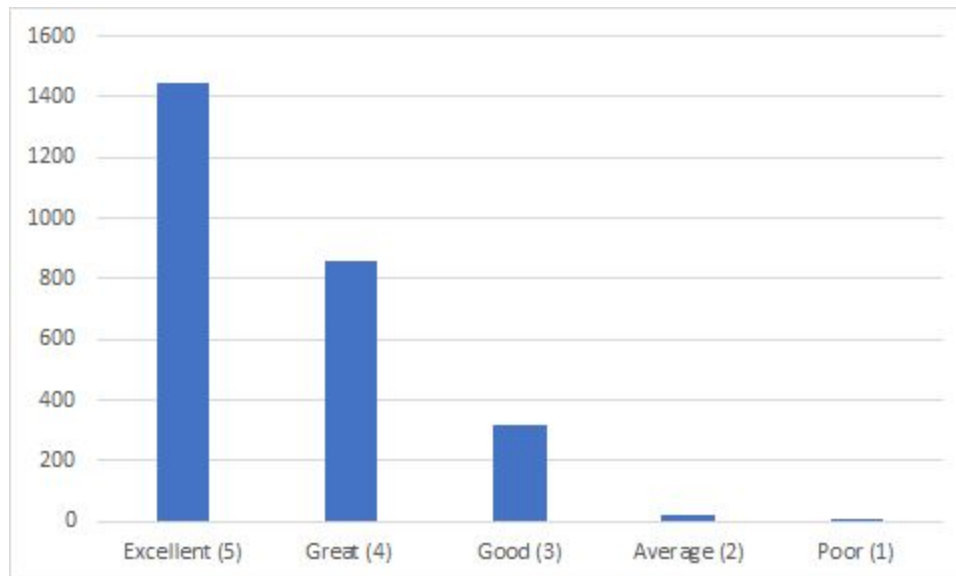


Figure 3: Overall course rating for the Role of Physiotherapy in COVID-19 (n = 1622)

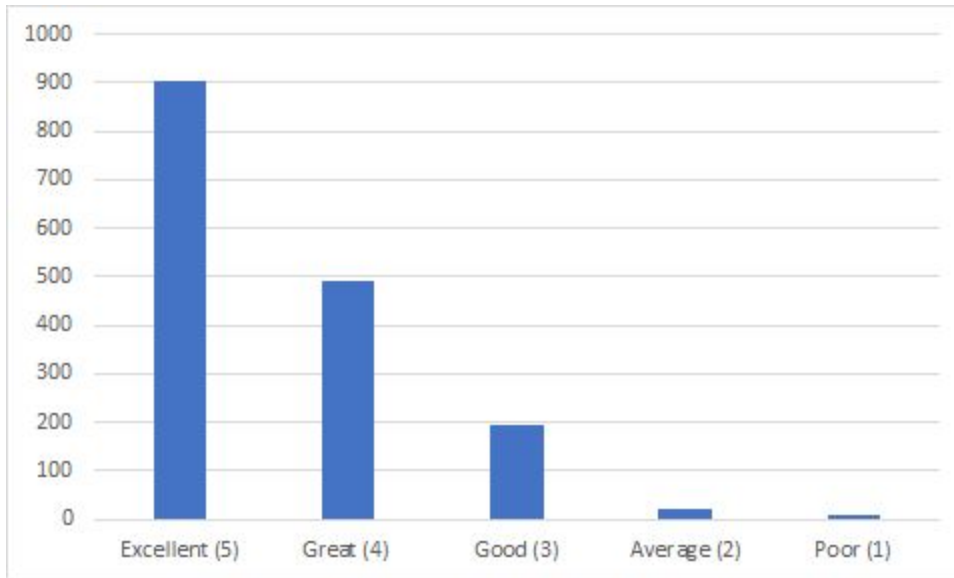
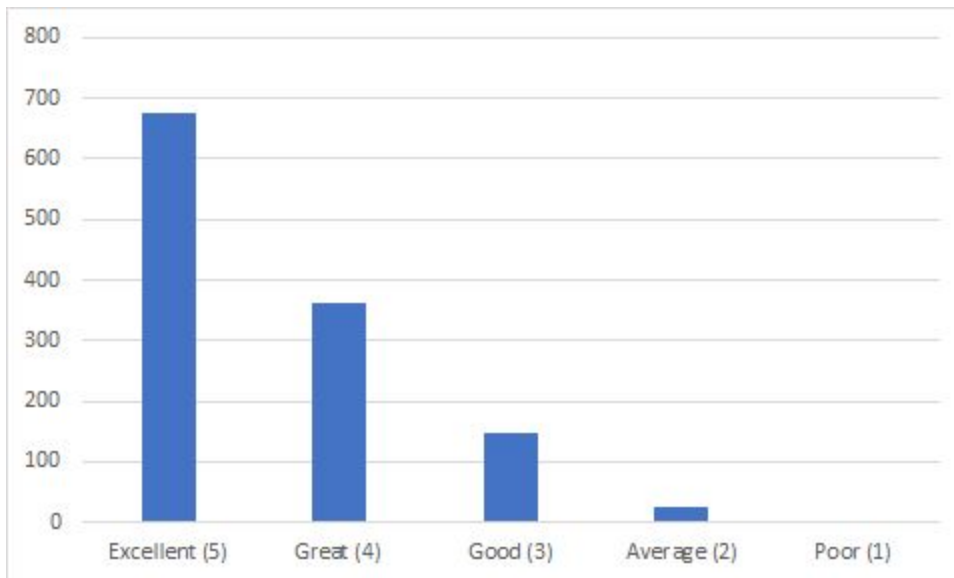


Figure 4: Overall course rating for the Respiratory Management of People with COVID-19 (n= 1219)



4.2 Physiotherapists specific feedback

Physiotherapists who completed all four courses were given the opportunity to voluntarily participate in a questionnaire that explored their' current involvement with the COVID-19 pandemic and investigated if participating in Physiopedia's coronavirus disease programme MOOC improved their knowledge and confidence in working with individuals presenting with COVID-19. Over 580 physiotherapists responded to this questionnaire.

Preliminary results suggest that the majority of respondents (90%) agreed that after completing the programme they had a better understanding of the clinical presentation, diagnosis, management and prevention of COVID-19 and their understanding of infection prevention and control and the procedures and policies for hand hygiene and personal protective equipment had improved. 83% agreed that their understanding of respiratory management of patients with COVID-19 and the role physiotherapists can play in managing these issues had improved after completing the modules. Respondents were most confident in their ability to identify the most common complications seen in hospitalized patients with COVID-19 and were least confident in their ability to identify the radiological presentation for acute respiratory distress syndrome.

After completing the programme respondents reported their clinical practices were positively influenced by their improved awareness of infection prevention and control measures (including proper use of personal protective equipment, hand hygiene and symptom screening) and their ability to advocate for the role of physiotherapy for patients with COVID-19.

5.0 Conclusion

Physiopedia successfully created and delivered a MOOC 5 days after the WHO declared the coronavirus disease a pandemic. Over 10,102 learners from around the world completed one or more of the courses provided within the program. During a pandemic, free access to accurate and up to date information is imperative. A MOOC targeted at rehabilitation professionals appears to be an effective strategy to reach a large number of individuals from across the world during a pandemic.

Future work will explore physiotherapists' current involvement with the COVID-19 pandemic and determine if participating in Physiopedia's coronavirus disease programme MOOC improved physiotherapists knowledge and confidence in working with individuals presenting with COVID-19.