Re-imagining health professions education in the coronavirus disease 2019 era: Perspectives from South Africa

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Background: The coronavirus disease 2019 (COVID-19) pandemic hit South Africa in March 2020, severely disrupting health services and health education. This fundamentally impacted the training of future health professionals and catalysed a significant response from across the health education sector. In 2020, the South African Association of Health Educationalists requested members to submit reflections on different aspects of their COVID-19 related educational responses.

Responding to the pandemic: Seven vignettes focused specifically on clinical training in the context of primary care and family medicine. This short report highlights the key insights that emerged from these vignettes, considering what has been learnt in terms of health professions education and what we need to take forward. These insights include building on what was already in place, the student role, technology in the clinical learning context, taking workshops online, vulnerability and presence and the way going forward.

Discussion and conclusion: The contributions emphasised the value of existing relationships between the health services and training institutions, collaboration and transparent communication between stakeholders when navigating a crisis, responsiveness to the changed platform and dynamic environment and aligning teaching with healthcare needs. It is more important than ever to set explicit goals, have clarity of purpose when designing learning opportunities and to provide support to students. Some of these learning points may be appropriate for similar contexts in Africa. How we inculcate what we have learned into the post-pandemic period will bear testimony to the extent to which this crisis has enabled us to re-imagine health professions education.

Keywords: COVID-19; health professions education; primary health; responsiveness; remote teaching; clinical training.

Background

The coronavirus disease 2019 (COVID-19) pandemic hit South Africa (SA) in March 2020 and subsequently more than 1.6 million people contracted the virus.¹ Lockdown restrictions led to the closing of tertiary educational institutions and forced people to work and learn from home. In health professions education, the disruption fundamentally impacted the training of future health professionals and catalysed a significant response from across the education sector. Those responsible for clinical training had to think creatively and swiftly to navigate the ever-changing situation. Whilst the pandemic continues to wreak havoc, it has created opportunities for reviewing existing practices and approaches to the training of students on clinical platforms. The clinical learning environment, where health professional students work and learn, is foundational to health professions education.² The forced shift to online learning has been extensively documented since the start of the pandemic.³ ⁴ Whilst the work that has gone into refurbishing traditional ‘theory’ modules for online engagement cannot be underestimated, sustaining clinical training has provided unique challenges across most health professions.

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Dates: Received: 19 Feb. 2021 | Accepted: 31 May 2021 | Published: 10 Aug. 2021

How to cite this article: Schmutz AMS, Jenkins LS, Coetzee F, et al. Re-imagining health professions education in the coronavirus disease 2019 era: Perspectives from South Africa. Afr J Prm Health Care Fam Med. 2021;13(1), a2948. https://doi.org/10.4102/phcfm.v13i1.2948

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In July 2020, the SA Association of Health Educationalists (SAAHE) requested members to submit reflections on different aspects of their COVID-19 related educational responses. Seven of these submissions focused on clinical training in the context of primary health care (PHC) and family medicine (FM). Strategies to strengthen PHC during the global COVID-19 disruption have included service delivery models that promote integrated services, workforce strengthening and use of digital technologies. In a recent systematic review, Komashie and colleagues point to a diversity of challenges facing healthcare, such as multimorbidity, the complex nature of healthcare delivery and a range of organisational and cultural concerns. In response, they argue for the adoption of a systems approach to strengthen the quality and delivery of healthcare. Such an approach acknowledges the interconnectedness that exists between all components within the healthcare sector, whilst emphasising the value of adopting adaptive iterative implementation of interventions. Such thinking holds implications for clinical training as well, particularly at a time when the pandemic has exponentially heightened the burden on our healthcare system. We would argue that adopting a systems approach that draws on established relationships with stakeholders, across the health sector, whilst acknowledging cultural and organisational challenges has the potential to effect the adaptive responses that are required at this time. This short report presents a series of vignettes that describe a range of such adaptive responses; highlighting the key insights that emerged, considering what has been learnt and what needs to be taken forward and reflecting on how, collectively, they represent a systems approach, contributing to strengthening the healthcare in this time of disruption.

**Responding to the pandemic: Seven vignettes**

The different contexts, the adaptive iterative implementations during the COVID-19 disruptions and the key insights that were gained are summarised as a series of vignettes in Table 1.

**Discussion**

Clinical training should always be responsive to local healthcare needs to promote learning and complement service delivery. The restrictions and protocols implemented as a result of COVID-19 were undeniably a catalyst for rethinking the potential use and opportunities afforded through different technological processes and applications. The key health professions education lessons learnt during the COVID-19 pandemic are summarised in Table 2. Although this rethinking came about in pressurised circumstances and often amounted to ‘emergency remote teaching’, we have presented some examples of innovations and lessons learnt that came about during the COVID-19 pandemic, which may provide solutions for others involved in health professions education in the post-COVID era.

Existing relationships between health institutions and the clinical service platform that have developed over many years have been invaluable in rapidly adapting the clinical environment to the global pandemic. This emphasises the need for health professions education to continue training in practical settings at grassroots level, close to people and communities. These new circumstances have highlighted the value of providing opportunities for students to be exposed to practical integrated healthcare and to engage with a much broader scope of platforms offered by, for example, non-governmental organisations (NGOs) and community-based organisations (CBOs). It can be argued that the COVID-19 disruption has enabled adaptive iterative implementation of previously less-utilised digital technologies, such as electronic learning portfolios (e-portfolios), Zoom© and Vula©, which have now become essential to connect within supervisor–learner relationships over large distances in rural areas. In addition, the pandemic provided an opportunity for a more student-centred approach that sees the teacher–student relationship as a partnership of co-learning and risk taking – one that welcomes self-disclosure, and acknowledging uncertainty and failure as pathways to enrich learning. The pandemic is ‘an opportunity to not only rethink online digital pedagogies but also to reimagine education …’ where creating new, intersecting relationships, new forms of learning and a new respect for different modes of knowledge is valued to create more equitable, humane and just societies.

**Conclusion**

Over the past year, clinical educators across SA have collectively demonstrated their ability to adapt using innovative approaches whilst drawing on established, pre-existing relationships and whilst navigating the complex healthcare system. Much of what has happened has been influenced by technology. Online meetings have allowed participants (students, educators and clinicians) from far and wide to engage, without barriers of cost, travel or losing travel time. This has become a new way of collaborating, enabling participation across geographical borders, exposure to leaders in the field and disciplinary experts engaging one another. Whilst there previously might have been a reluctance by many clinical educators to move teaching and learning activities into the online learning environment, the combination of existing online activities and the pressures to increase their use that came with the COVID-19 pandemic allowed for a rapid adoption of these new modes of teaching. The COVID-19 crisis has emphasised the value of collaboration and communication between stakeholders in adapting to a changed clinical
1. **Postgraduate family medicine training in rural areas such as**
   **Pre-COVID-19.** SU physiotherapy students trained in the
   longitudinal integrated model (LIM) at Stellenbosch University (SU),
   vs. medical students are placed at district hospitals for clinical
   training, away from the academic hospital, for the entire
   final year.

   Assessment was adapted from face-to-face case-based
   assessments to videoconferencing case-based
   assessments. The students provided a summary of
   patients whom they managed whilst supervised
   and this provided a starting point to test their clinical
   reasoning. Students collaborated in the process of
   identifying issues with the online assessments
   and finding solutions.

   **Key insights**
   - Hospital and clinic staff acknowledged that whilst
     having students at their sites added to their
     responsibilities, the benefits outweigh the
     challenges. Assessors provided clear instructions
     for all examiners to ensure success in videoconference assessments.
   - Practical tips include:
     - Have an administrator arrange the assessments
     and carry out a test run with each of the new
     examiners to ensure familiarity with the
     videoconference software.
     - Communicate the time allocation for patient
     presentation, questioning, consensus scoring and
     feedback to students and examiners before the
     assessments.

2. **Human nutrition.** A 6-week integrated community-based
   rotation for final year dietetic students within the Ukundwa
   framework had to change because students could not be
   placed at pre-existing sites.

   The purpose of the programme, to expose students
   to practice integrated community nutrition, therapeutic
   nutrition and food service management, was
   maintained with a shortened 5 weeks rotation: Three
   weeks online and two weeks at different locations with
   a non-governmental organisation (NGO).

   **Key insights**
   - Linking with an NGO ensured that the
     students’ community exposure was retained.
   - Programme coordinators ensured that
     intended learning outcomes were
     constructively aligned and retained.
   - Assessment was still guided by the set
     programme outcomes. Most summative
     assessments were conducted during the online
     phase whilst the practical phase consisted of
     formative assessment opportunities. Students
     received feedback about their competencies,
     including consultation, health promotion and
     education skills from their clinical facilitator,
     the community and peers.
   - Learning opportunities were adapted for
     COVID-19 nutrition specific responses, for
     example, developing, preparing and evaluating
     a soup recipe at a community-based
     organisation (CBO), compiling guidelines for
     emergency food parcels and packing food
     parcels.
   - Through webinars, students gained exposure
     to national and international role players from
     different sectors and disciplines highlighting an
     integrated approach to health and nutrition.

3. **Postgraduate family medicine training in rural areas such as**
   the Garden Route district in South Africa poses challenges,
   with registrars spread across large geographic areas. Prior
   to COVID-19 clinical teaching relied on the local family
   physician who might not always be available because of
   clinical responsibilities. This meant that planned teaching
   did not always occur. Face-to-face interactions within a
   professional relationship, where communication skills such
   as active listening, empathy, kindness and respect are
   inherent, remain an organisational challenge.

   Prior to COVID-19 the one electronic tool to support
   workplace-based training and assessment was the
   e-portfolio. As COVID-19 has disrupted face-to-face
   meetings, the e-portfolio, with supervision from a
   distance, has become an indispensable tool in
   assessment for learning and assessment of learning.
   Registrars upload educational activities and supervisors
   at a distance validate and give feedback.

   **Key insights**
   - Learning opportunities were adapted for
     COVID-19 nutrition specific responses, for
     example, developing, preparing and evaluating
     a soup recipe at a community-based
     organisation (CBO), compiling guidelines for
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     organisation (CBO), compiling guidelines for
     emergency food parcels and packing food
     parcels.

4. **Since 2016, the University of Cape Town (UCT), Faculty of**
   Health Sciences has offered two elective courses for senior
   medical students. The faculty’s COVID-19 response
   provided the opportunity to offer prescribed electives or
   ‘selectives’, for academic credit.

   With assistance from student societies, students signed
   up for COVID-19 ‘hotline’ shifts at the provincial
   Disaster Management call centre, for home-based
   telephonic case and contact tracing for a hospital-
   based Health Screening and Testing Centre or for
   COVID-19 clinical duties. Volunteers were eligible for
   a UCT community service award, which will show on
   their academic transcripts.

   Students made helpful suggestions for orientation,
   asked for regular evidence updates and further training
   in handling ‘difficult’ callers, and requested additional
   support from their supervisors. They enjoyed
   working on complex case scenarios, and, although
   it was not only the curriculum – the way it was
   packaged – that had to change. The students
   themselves took on different roles, including
  郡

   **Key insights**
   - The COVID-19 disruption has forced an adaptive
     iterative implementation of previously
     unexplored, purposefully designed utilised digital technologies, which has now
     become essential to connect within supervisor–
     learner relationships over large distances in rural
     areas.

5. **Pre-COVID-19, SU physiotherapy students trained in the**
   traditional rotation-based model, completing short rotations
   across four core disciplines. The Division of Physiotherapy
   reframed clinical learning opportunities, student support
   strategies and assessment. The challenge in adapting clinical
   learning opportunities was to balance responsiveness to
   emerging opportunities on the ‘new’ clinical training
   platform, whilst graduating clinically competent entry-level
   physiotherapists.

   Physiotherapy services were directly affected by the
   redeployment of the health workforce and suspension of
   ‘non-essential’ health services and de-escalation of
   care for patients with chronic conditions. The division
   adopted ‘the curriculum is the patient that walks through the
door’ approach and engaged anew with clinicians, recognising this approach included
   uncertainty towards available clinical learning afforded to
   students. The division revisited the core
   competencies for entry-level physiotherapists and
   developed a masterplan aligned with the Health
   Professionals Council of SA (HPCSA) recommendations.
   A clinical referral pathway mobile application, Vula
   (https://www.vulamobile.com/), to track students’
   clinical exposures on the platform and map this in
   relation to the masterplan was introduced. This process
   helped lecturers to identify and develop supplementary
   clinical learning activities to address unattended
   exposures and engaged students in their own learning.
   These activities included student-led remote case
   management discussions and virtual home visits.

   **Key insights**
   - The adaptation of the clinical learning model
     resulted in alternative student support strategies
     to shift the burden away from clinicians and
     included remote support from a mentor whose
     focus was to assist the student in self-directed
     learning. Site supervisors continued providing
     bedside supervision whilst academic experts
     facilitated case-based learning through remote
     communication. Constructive alignment between
     learning opportunities and assessment were
     maintained by introducing case-based
     management student discussions (CBSDs) in addition
     to direct observation clinical evaluations tests.

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Table 1 continues on the next page →

http://www.phcfm.org
Adapt learning opportunities for COVID-19 specific responses, for example, nutrition needs of communities. Retain and constructively align the educational or pedagogical principles that had previously informed practice, including assessment of intended learning outcomes. Adapt existing innovations within the clinical training context, such as distributed (remote) platforms for clinical training.

The UCT Division of Family Medicine's undergraduate programme reconsidered the way students learn and are taught. The undergraduate clinical training programme began with Emergency Remote Teaching and was followed by a blended approach of online learning and experiential clinical service learning. There was pre-engagement with online content, which encouraged students to have enriched clinical exposure whilst gaining valuable experience from the clinical response to a pandemic. Plans include the continuation of the blended learning approach using WhatsApp, Zoom® and Vula® platforms to maximise the time for clinical teaching and to pursue an integrated Teaching Platform for the rural rotation.

7. The roles of students changed, where the teacher–student relationship is seen as a partnership of co-learning and risk taking, allowing opportunities for development of professionalism, empathy, teamwork and initiative, welcoming self-disclosure, uncertainty and failure to deep learning. Vula®, an interactive workshops emphasising the importance of interprofessionality on a global level.

COVID-19, the coronavirus disease 2019.

TABLE 2: Key health professions education lessons learnt during the coronavirus disease 2019 pandemic.

| No. | Education lessons learnt during the coronavirus pandemic. |
|-----|---------------------------------------------------------|
| 1.  | Adapt existing innovations within the clinical training context, such as distributed (remote) platforms for clinical training. |
| 2.  | Build on established relationships with stakeholders across the health sector, universities and NGOs. |
| 3.  | Retain and constructively align the educational or pedagogical principles that had previously informed practice, including assessment of intended learning outcomes. |
| 4.  | Adapt learning opportunities for COVID-19 specific responses, for example, nutrition needs of communities. |
| 5.  | Webinars allow students to gain exposure to national and international role players from different sectors and disciplines. |
| 6.  | E-portfolios overcome logistical challenges by allowing registrars to upload educational activities for supervisors at a distance to validate and give feedback, supplemented with online educational meetings and learning conversations. |
| 7.  | The roles of students changed, where the teacher–student relationship is seen as a partnership of co-learning and risk taking, allowing opportunities for development of professionalism, empathy, teamwork and initiative, welcoming self-disclosure, uncertainty and failure to deep learning. |
| 8.  | Rethink the potential use and opportunities afforded through different technological processes and applications, such as the clinical referral pathway mobile application, Vula®, to track student exposures on the platform and using videoconferencing in student assessments. |
| 9.  | Online platforms such as Zoom® allow small group modular work to be conducted in workshops through highly interactive engagement with material and interprofessionality on a global level. |
| 10. | Applications such as WhatsApp allow exercises in which students use an online recorded WhatsApp formative role-play intervention that accommodates the needs of vulnerable students in poorly resourced, low-tech environments and also seeks to reveal the ways in which students’ tacit knowledge of digital learning is displayed. More individual contact (via WhatsApp) between students and trainers represent learning around patient encounters in the daily clinical workspace. |

NGOs, non-governmental organisations; COVID-19, the coronavirus disease 2019; No., number.

Table 1 (Continues…): Seven vignettes: Contexts, what was performed and key insights.

| No. | Context | What was performed | Key Insights |
|-----|---------|--------------------|-------------|
| 6.  | The SU network for strengthening rural interprofessional education (SUNSTRiPE) project, one of the partner institutions of African Forum for Research and Education in Health (AFRehealth) and University of California San Francisco (UCSF), embarked on a project called Strengthening Inter Professional Education to improve human immunodeficiency virus (HIV) Care (STRIPE HIV) across Africa. The goal of STRiPE HIV is to improve the ability of health professional graduates to deliver high quality, team-based, person-centered care to persons with HIV. A panel of 10 experts, representing faculty members of 9 medical and nursing schools in sub-Saharan Africa (SSA) developed a training package consisting of 17 modules focused on core clinical, public health, interprofessional care and quality improvement (QI) domains related to HIV service delivery. Training was delivered through 2-day interactive workshops emphasising the importance of interprofessional care and a culture of QI. | With the onset of the COVID-19 pandemic a COVID-19 module was developed and presented as an adapted online interprofessional workshop. After trying out different formats and platforms, the online Zoom® platform was used because of its facilities for small group work. More than 600 students and health professionals from various professions have been trained in these 90-min workshops, appreciating the highly interactive engagement with the material and the degree of interprofessionality. | SUNSTRiPE has adapted four of the STRiPE HIV modules to the synchronous online format. Guidelines for facilitating these workshops, including in the Zoom® format, have been developed. Some modules were also adapted to be delivered as asynchronous workshops using Google Classroom providing alternative options for connectivity challenges. |
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