Delivery of Clinical Teaching and Learning for Health Sciences Students during the National Lockdown in Response to COVID-19: A Pragmatic Approach at the University of KwaZulu-Natal

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Abstract

COVID-19 has posed a challenge to teaching and learning at institutions of higher education in South Africa, but even more so in the delivery of clinically focused programmes that require experiential learning to happen in healthcare settings, which are the epicentre for combating the COVID-19 epidemic. The national lockdown, which resulted in the abrupt closure of university residences and the withdrawal of students from healthcare settings to promote physical distancing and reduce the spread of COVID-19 also disrupted the core principles of clinical placement and clinical rotation – the main delivery mode of all clinically focused programmes in the College of Health Sciences (CHS), University of KwaZulu-Natal.

The impact of sudden the withdrawal of students from clinical placement because of the national lockdown to flatten the curve of the spread of COVID-19 is huge for clinical learning. Although it is possible to extend time for clinical placement and achievement of clinical learning outcomes once the epidemic is over for students in pre-clinical years and junior years, the same cannot be said for senior and final-year health science students who have to achieve all the exit-level outcomes of programmes and meet the

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requirements of the professional bodies before graduating and registering as qualified health professionals.

Final-year health sciences students can gain a lot of knowledge and experience in managing epidemics of this nature by being in the frontline, working and learning side by side all other health professionals in fighting this epidemic. However, the reality is that students are novices, and thus at more risk of being infected with COVID-19 in their line of duty than experienced professionals; therefore, a careful balance needs to be reached in meeting their clinical training needs.

This chapter discusses the pragmatic approach to the delivery of clinical programmes, ethical and legal considerations associated with placing students in clinical settings during national lockdown, and the closure of higher education institutions in response to the COVID-19 epidemic.

Keywords: COVID-19, Clinical placement, Clinical rotation, health science students, medical students, national lockdown

1 Introduction

COVID-19 has posed a challenge to teaching and learning at institutions of higher education in South Africa, but even more so in the delivery of clinically focused programmes, which require experiential learning to happen in healthcare settings, which are the epicentre for combating the COVID-19 epidemic. The national lockdown, which resulted in the abrupt closure of university residences and withdrawal of students from healthcare settings to promote social distancing and reduce the spread of COVID-19 also disrupted the core principles of clinical placement and clinical rotation – the main delivery mode of all clinically focused programmes in the College of Health Sciences, University of KwaZulu-Natal.

Students in disciplines that require no clinical teaching may receive virtual teaching and assessments during the national lockdown. There is even a possibility of extending the time to catch up for any lost teaching and assessment time for such programmes. Such possibilities are slim for clinically focused programmes, because the mode of teaching these programmes relies on clinical placements and clinical rotation in healthcare settings, including hospitals and community health clinics throughout the province of KwaZulu-

Natal. Although it is possible, for students in pre-clinical years and junior years to extend time for clinical placement and achievement of clinical learning outcomes once the epidemic is over, the same cannot be said for senior and final-year health science students who have to achieve all the exit-level outcomes of programmes in order to meet the requirements of the professional bodies before graduating and registering as qualified health professionals.

Final-year health sciences students can gain a lot of knowledge and experience in managing epidemics of this nature by being in the frontline, working and learning side by side all other health professionals in fighting this epidemic. However, the reality is that students are novices, and thus at more risk of being infected with COVID 19 in their line of duty than experienced professionals are. Therefore, the adoption of a pragmatic approach to the delivery of clinical programmes is needed to allow for a smooth return of health sciences students to health services for experiential learning during clinical placement and clinical rotation during national lockdown and closure of higher education institutions in response to the COVID-19 epidemic. Paramount to the smooth return of students to clinical placement is the University's commitment to students' health and safety. This requires engagement with student leadership, academics involved in clinical teaching and clinical supervision of students and other relevant stakeholders.

The CHS is a multi-professional institution spread across four of the five campuses of the University of KwaZulu-Natal, including the School of Clinical Medicine, the School of Health Sciences, the School of Nursing and Public Health and the School of Laboratory Medicine and Medical Sciences. The College provides a unified and holistic approach to theoretical and clinical teaching at both undergraduate and postgraduate levels. It offers the following undergraduate Bachelor Degrees:

- MBChB and the Medical students returning from Cuba under the Nelson Mandela Fidel Castro Programme;
- Audiology Biokinetics, Exercise and Leisure Sciences;
- Dental Therapy;
- Nursing;
- Occupational Therapy;
- Optometry;
- Pharmacy;
- Physiotherapy;

- Speech Language Therapy;
- Medical Sciences (Anatomy, Physiology and Biochemistry); and
- Honours in Medical Sciences (Anatomy, Physiology, Medical Microbiology and Medical Biochemistry)

The delivery of clinical teaching and learning for the College of Health Sciences is managed through the Memorandum of Understanding (MOU) between the University of KwaZulu-Natal and the KwaZulu-Natal Department of Health (KZN-DOH), which ensures both parties work efficiently and effectively in the delivery of health services to the consumers of health and provision of quality clinical training. Most of the clinical placement of students is managed under the Decentralised Clinical Teaching Platform (DCTP) across all public healthcare facilities of the KZN-DOH in the whole province.

2 Clinical Placement as a Mode of Delivery of Clinical Teaching Versus Health Service Provision

Clinical placement of health sciences students in healthcare settings is primarily for experiential learning purposes; service provision to patients is secondary. The primary responsibility of the national and provincial healthcare system is to provide comprehensive, quality healthcare to consumers of healthcare. Still, there is a strong commitment to the provision of a safe and supportive learning environment for all health science students on clinical placement. In simple terms, the clinical placement of health science students is a shared responsibility between the university and the KZN-DOH and both are bound by the Memorandum of Understanding to provide both the service to the consumers of healthcare and clinical training to health science students. At any given time, there are about 1 000 senior and final-year health science students in the health facilities throughout the province of KwaZulu-Natal. Medical students in pre-clinical years and health science students in junior years also receive clinical placement and clinical rotation at the same healthcare facilities. However, the focus is on experiential learning, while for senior and final-year health science students the focus is on providing quality health services under clinical supervision. Students are therefore an integral part of the human resource of the health services, because they provide the necessary clinical care, albeit under clinical supervision.

The impact of the sudden withdrawal of health science students from clinical placement because of the national lockdown to flatten the curve of the spread of COVID-19 made a considerable dent in healthcare human resources at a time when more hands were needed for service provision to combat the COVID-19 epidemic. Senior and qualified health professionals who would normally provide clinical teaching and clinical supervision of students on clinical placement are moved towards COVID 19 management; for example, operating theatres are only handling emergencies, all elective and non-urgent cases have been put on hold. This leaves a gap in the availability of clinical learning opportunities and clinical supervision for students to meet the prescribed clinical learning outcomes in clinical areas deemed non-essential, even if students were to return to these health services for clinical placement. The non-availability of clinical learning opportunities in the so-called 'non-essential' health services could negatively affect the delivery of clinical programmes that require a range of clinical learning outcomes to be met by final-year health science students towards graduating and registration by their health professional bodies and commencement of internship and/or community service placement registration, If not managed properly, this disruption could result in the non-production of health professionals in 2021.

The desire for an early return of final-year health science students to the clinical services for clinical learning and the provision of health services is a reality that needs to be addressed even in the midst of the national lockdown and closure of universities. This will help to avert delays in the completion of all clinical programmes at UKZN and the registration of new graduates as qualified health professionals in line with the prescripts of the Health Professions Act 56 of 1974 (for medical doctors and other health professionals) and the Nursing Act 33 of 2005 for nurses. This reality is supported by the South African Committee of Health Sciences Deans (SACOHSD) which issued a letter to the Health Professional Councils supporting the development and implementation of contingencies or continuity plans to mitigate the impact of COVID-19 on the delivery of clinical teaching and learning in health science programmes in South Africa. Internationally, other universities are also calling for the return of students to clinical placement for service provision during the COVID-19 lockdown to allow students to assist in the fight against this pandemic (Farber 2020). The UKZN CHS, like other universities, has a legal and social responsibility and obligation to ensure that, as far possible, the delivery of the clinical

programme and the production of future health professionals are minimally disrupted during the national lockdown and closure of higher learning institutions in response to the COVID-19 epidemic.

2.1 The Sociotechnical Systems Theory as a Pragmatic Approach for Return of Students to Clinical Placement and Clinical Rotation

Contingency plans for the return of final-year health science students for clinical placement and clinical rotation need to be approached in a pragmatic and ethically sound manner. This will avert shocking the healthcare system with an underprepared and unsafe student population while trying to meet the clinical exit-learning outcomes and minimum clinical requirements by the different health professional bodies. Failure to have such contingency plans may put both the patients and students at more risk for contracting and/or spreading COVID-19. Managing the return of the students to the clinical services for delivery of clinical teaching and learning and service delivery is a phenomenon that can best be understood by using the Sociotechnical Systems theory. According to the Sociotechnical Systems Theory, organizations such as schools and universities exist for the achievement of specific goals, which are accomplished through four major subsystems, including the human, tasks, structure and technology subsystems. These subsystems interact within the larger external social, political, economic, technological, legal, demographic ecological and cultural subsystems (Owens 1998).

2.1.1 Human Subsystem Challenges

According to the Sociotechnical System, the Human Subsystem of a university or school as an organization may include individuals' skills and values among other things. Another important human subsystem is leadership within the university in ensuring that the university achieves its goals of delivery of clinical teaching (Owens 1998). Focusing on students as a human subsystem, the challenges related to their early return to health services for clinical placement and clinical rotation include students' lack of skills and under-preparedness in managing COVID-19. While it can be argued that students should be placed in low-risk clinical areas for COVID-19, it may not always

be possible, because a number of patients are asymptomatic, especially in the early stages of infection. This will also rob the final-year health science students of an ideal and probably the only learning opportunity of managing an epidemic before they graduate. This is against the goal of UKZN College of Health Sciences of producing the future 'fit for purpose' and safe health practitioners. Extensive training of final-year health science students on the practical use of Personal Protection Equipment (PPE), infection control measures and public health measures for combating the COVID-19 pandemic, needs to be put rolled out immediately for them to be in the frontline in fighting the CovidCOVID-19 epidemic. The infection control measured include competency in hand and respiratory hygiene to reduce the risk of contracting the corona virus in particular, and prevent its spread, as well as the clinical management of COVID-19. Theoretical aspects of this have been provided through online demonstration videos and online presentations, but the clinical training is a hands-on experience. Students have to be practically involved in order to become competent in the critical skills for combating future epidemics.

At UKZN, the students' need to return early for clinical rotation was driven by both self-efficacy and altruism. The former is one's belief about their ability to perform specific outcomes. The latter involves caring for others without expecting any gains for self (Avali, Zargham-Boroujeni & Bahrami, 2017). Both are important values for health professionals. The pressure to be allowed to return clinical facilities for clinical rotation and to assist the country in fighting the epidemic came from mostly senior and final-year health science students. Speaking to the senior students revealed that their preference for a return to provide health service to COVID-19-affected patients was primarily driven by the need to complete the professional bodies' prescribed minimum clinical requirements towards registration and commencement of internship and/or community service placement. On the other hand, speaking to students in preclinical and junior years of training revealed an interest to serve as volunteers on health promotion and community health education in the prevention of COVID-19 epidemic. According to the SACOHSD (2020), volunteering activities may not count as formal clinical training, because these hours are not aligned with specific clinical learning outcomes. We at UKZN believe that volunteering needs to be nurtured, because it can help in promoting altruism, which is one of the values expected from health professionals. In aligning with the SACOHSD's caution and recognition of the implications of

allowing preclinical junior students for volunteering activities, the plans for an early return to clinical facilities for clinical rotation are limited to final-year health science students only until such time that the lockdown is lifted and it is safe to place students in clinical facilities for clinical teaching and learning. However, we recommend that other students can contact the COVID-19 task team to be linked up with other non-patient contact health systems, including using telehealth to respond to patient questions and concerns or assist with non-patient-facing tasks like making phone calls and writing clinical notes, while they recognize that such volunteering activities will not be recognized as training clinical hours.

Academic integrity is another important value that needs to prevail as decisions to place and rotate students in low risk clinical areas where they will be without clinical supervision, or to place them in the epicentre of COVID-19 epidemic and plenty of clinical supervision, but with fewer learning opportunities to meet the wide range of clinical learning outcomes. The CHS is currently grappling with how to balance clinical placement and rotation to meet all clinical learning outcomes versus fast-tracking the students to complete the clinical hours, irrespective of whether learning outcomes have been achieved or not. Academic integrity entails striking a good balance between the process and outcomes of learning and is highly valued along with other ethical standards in health professions (Piascik & Brazeau 2010). Being concerned with outcomes, i.e. meeting the clinical requirements of professional regulatory boards, at the expense of the process, i.e. helping students to learn and become competent health practitioners through appropriate clinical rotation, constitutes a violation of academic integrity.

2.1.2 Tasks Subsystem Challenges

According to the Sociotechnical System, the Tasks Subsystem of a university or school as an organization may include mode of instruction, supervision, administration and student and staff support services (Owens 1998).

Clinical placement and clinical rotation of final year health science students should be delivered in a comprehensive manner that ensures the achievement of all programme-level outcomes before one can graduate. Placement of students at low-risk clinical facilities may not assist in achieving this goal for a number of reasons.

The current reallocation of senior and qualified clinicians to areas where

their skills are needed the most in the management and prevention of COVID-19, means that the health professionals who would normally provide clinical supervision to students may no longer be available for clinical teaching and supervision. Because of an increase in the workload and the related exhaustion and emotional fatigue associated with the management of an increasing number of COVID-19 patients with poor prognosis, clinical teaching and supervision of students are likely to take a back seat. In addition, as novices, students lack competence and are at risk of contracting and spreading the virus. They have to be trained, closely mentored, and supervised (World Health Organization 2014). Regarding the careful planning of capacity recovery strategies such as the reduction in the staff, student ratios may need to be put in place for a smooth return of students to the clinical facilities during the lockdown and closure of universities. Staff and student morale may be severely affected due to the poor prognosis of COVID-19 epidemic. The WHO (2014) recommends that extra care should be paid to ensure that occupational health services are able to provide both staff and students support. However, the CHS should and cannot relinquish this role solely to the hospitals' occupational services. Instead, the College of Health Sciences should take the lead in providing psychosocial support to students and staff alike. Also, delivery of clinical teaching and learning during the national lockdown and the closure of university in response to the COVID-19 epidemic may necessitate stringent adherence to the following guidelines in order to ensure staff and students' safety and thus mitigating the risks of COVID 19 infection:

- Screening and testing of all health science students returning for clinical placement in response to COVID-19 to prevent putting them and others at risk for contracting and or spreading the virus;
- Identification of vulnerable students, such as pregnant students, those with comorbidities, etc.
- Contact tracing of all those who may have been in contact with students who test positive for the corona virus;
- Isolation for those students who test positive. This will require additional housing to accommodate students or returning them home and thus affects their time for completion of clinical placement requirements;
- Quarantine for those students who have been exposed to the virus. This may be at an additional expense for the university or individual student

and may affect the time for completion of clinical placement requirements;

- Availability of Personal Protective Equipment (PPE) for the occupational safety of the students while caring for COVID-19 patients;
- For hand hygiene – availability of handwashing facilities or sanitizers where it is not possible to have handwashing facilities in all the living and working spaces;
- For respiratory hygiene – the availability of cloth masks for use in all public spaces;
- Students should, where feasible, be allocated according to their skill sets to low-risk/non-COVID-19 areas;
- All students to have 2020 seasonal influenza vaccination and certification before returning to clinical facilities;
- There will be a shift in the assessment approach towards on-site assessment, within the clinical setting, and a signing-off of achieved competencies; and
- Ongoing training is necessary for all students on the latest information around COVID 19, the proper use of PPE and clinical management of patients with COVID 19.

Key lead groups were developed to ensure the smooth return of students for clinical placement and clinical rotation and restore delivery of clinical teaching during the national lockdown and closure of the university, and these were facilitated through the COVID 19 war room. As a result, by the time of closure and the countrywide lockdown, no COVID 19 infections had taken place at UKZN. Subsequent to that, preparations for easing the lockdown took place, and a number of protocols were developed to limit the spread of COVID 19 at campus. This team functioned under the Deputy Vice-Chancellor of Health Sciences and reported directly to the Executive Management Committee. The protocols included prevention of spread measures in the utilisation of all teaching and learning facilities such as libraries, computer labs, classrooms, etc. Cleaning and the disinfection of campus and residences, student transport, including travel by students and staff protocols were developed.

A full risk assessment for all university spaces was conducted by occupational health and safety division to ensure the safe return of students and staff. A matrix of all regulations passed by the government was devised to

ensure compliance through the assistance of legal office with human resources division.

Reopening the university will be aligned to the national policy of easing the lockdown. It will be a phased-in, risk-adjusted approach with a staggered intake. All UKZN employees who were identified at high risk and/or can carry out their work duties from home will be encouraged to do so, following engagement with their line manager about working remotely. Screening and testing protocols were all devised and the accredited on-site laboratories were all set up to assist with the COVID 19 testing. Plans and protocols for managing an outbreak were also devised through expert advice from COVID 19 task team working together with campus health clinics.

UKZN requires all staff, students and their families to observe the standard infection control practices including the use of cloth masks by ALL within the university in public spaces, accompanied by education on the safe use of such masks.

2.1.3 The Structure Subsystem Related Challenges

The structure subsystem in the university or school as an organization relates to authority, decision making, control planning, rules, departments and communication (Owens 1998). A number of questions regarding the role of the College and KZN–DOH can arise. For example, who has authority over students when they are at clinical facilities for clinical rotation during an epidemic; who makes decisions regarding how student rotation is carried out; or which controls are in place to ensure that students meet all the requirements of registration with professional bodies at the end of their training; regarding whether to place them in low-risk departments or in departments which are the actual epicentre of the epidemic. Careful consideration of these questions is critical prior to making a call for the early return of final-year health science students for smooth delivery of clinical teaching and university closure in response to an epidemic. Failure to engage all stakeholders, including students, KZN-DOH, and academics involved in the clinical teaching and supervision of students can preclude the achievement of the university's goals of the smooth return of students for clinical placement and clinical rotation for learning and service provision to fight the COVID-19 side by side with other health professionals.

2.1.4 Technology Subsystem-related Challenges

A Technology Subsystem at the university or school as an organization may include equipment and materials for clinical teaching and health service provision, schedules such as the university calendar and timetables, curriculum and learning outcomes (Owens 1998). Any delay in the return of final-year health science students for clinical placement and clinical rotation is a ticking bomb that should be averted at all costs. Failure to achieve exit-level outcomes and meet the minimum requirements for professional registration by the end of 2020 may have many ramifications. Delay in the production of health profess-sionals will further affect the already weak economy of the country, in the wake of the recent Moody's downgrading of the national economy to a junk or sub-investment grade (Duvenage 2020). Predicting the impact of turmoil associated with the COVID-19 epidemic on the social, political, economic, demographic and cultural systems cannot be predicted yet. Still, a delay in production and graduating the final-year health science students at the end of 2020 can have future legal and ethical implications for UKZN CHS and KZN-DOH.

There are proposals to reschedule the clinical placement and clinical rotation time-table to allow students to 'work' night duty shifts to ensure completion of clinical requirements for professional registration, where applicable, While 'working' night duty shifts is not something new, it does have ethical implications, when it is obvious that there will be little or no clinical supervision, because senior and qualified staff have to focus on management of COVID-19 patients who are fighting for their lives.

3 Challenges Related to the College of Health Science's Interaction with the Larger External System Challenges

Most universities that offer clinical science programmes are in agreement with the early return of other final-year health science students and are all looking at means and ways of doing this without endangering the students' health and wellbeing. However, the Department of Higher Education and Training is reported to not to support this, citing putting students' lives at risk for contracting COVID-19, reversing the gains obtained from the national lockdown in terms of flattening the curve of the spread of COVID-19 among other reasons (SACOMD 2020). Heeding the warning from DHET is important, as CHS and other universities develop plans and strategies to ensure

the smooth delivery of clinical teaching and learning during the national lockdown and closure of universities.

Legally, the other final-year health science students have a right to expect the CHS to deliver on their promise in terms of the programmes that students are registered. Students have the right to demand an early return in order to meet the clinical requirements of their professional regulatory boards. Legal disputes resulting from perceived and actual failure on the part of the CHS to meet its obligations in the delivery of clinical teaching and protection of students and staff from being infected with COVID-19 during this epidemic should be avoided. Legal experts within and outside the university may have to be done timely to ensure that all planned strategies for the early return of students are legally and ethically sound.

4 Conclusion

There is no best way of managing contingency and continuity plans for delivery of clinical teaching and learning during the national lockdown and closure of a university. However, using the sociotechnical systems theory provided us with a framework for a pragmatic approach to ensure challenges are identified and addressed from different angles. It also provided us with a lens to identify and address the legal and ethical implications associated with placing students in clinical settings during national lockdown and closure of higher education institutions in response to the COVID-19 epidemic.

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