

Implementation of a decentralised clinical training programme (DCTP) at a university of technology in South Africa: Implications for health science education and clinical practice

C T Nxumalo,¹ PhD , G G Mchunu,² PhD; M Maphalala,³ PhD

¹ Academic Development Unit, Durban University of Technology, Faculty of Health Sciences, Ritson Campus, Durban, South Africa

² Faculty of Health Sciences, Durban University of Technology, Ritson Campus, Durban, South Africa

³ Centre for Excellence in Learning and Teaching, Durban University of Technology, Durban, South Africa

Corresponding author: C T Nxumalo (celenkosinin@dut.ac.za)

A decentralised clinical training programme (DCTP) is one of the transformative teaching and learning approaches that has been adopted in health professions education in South Africa (SA). The benefits of DCTP include: (i) development of graduates who are better fit for purpose; (ii) meeting the increasing demand for clinical service placement for work-integrated learning; and (iii) fostering social accountability among health science graduates. Despite these advantages, DCTP is yet to be implemented at a university of technology in SA. The literature shows that DCTP has predominately been implemented in medical, occupational therapy, physiotherapy, optometry and nursing health science programmes in traditional SA universities. The available evidence also suggests that existing practices of implementing DCTP in these universities involve placement of students in remote sites (community-based centres, primary care facilities and district hospitals) and in the SA public health sector, with subsequent omission of the private health sector. In view of the newly adopted SA National Health Insurance Bill, we argue that this is a gap in the implementation of DCTP. This article presents the stance of the Durban University of Technology in attempting to roll out DCTP in the context of existing implementation gaps.

Afr J Health Professions Educ 2023;15(4):e1694. <https://doi.org/10.7196/AJHPE.2023.v15i4.1694>

A decentralised clinical training programme (DCTP) is one of the key transformative teaching and learning approaches that has been implemented worldwide and in South Africa (SA) to promote the acquisition of socially and ethically sound health practice.^[1] DCTP refers to education and clinical learning interventions that occur outside the environments of main university campuses or traditional teaching hospitals, which are often located in urban areas.^[2] While DCTP has been generally implemented in undergraduate medical education in SA universities, it is yet to be implemented at a university of technology. This article seeks to add to the advocacy for the implementation of DCTPs in health science education, with an emphasis on implementation in broader health science education disciplines. We advocate this practice by bringing to awareness the existing practice limitations as these pertain to higher education practices in SA. Moreover, the article seeks to bring to light the stance of a university of technology's attempt to implement DCTP with regard to contextual factors that are different from those of traditional higher education institutions. The contextual factors related to health policy reforms and health service delivery in SA underpin the discussion and advocacy around the adoption of DCTP at an SA university of technology.

Several changes in health policy globally and in SA, together with growing health practice changes brought about by the burden of disease, have created an awareness and need for health science education to effectively prepare graduates to meet the needs of the healthcare system.^[3] There are increasing debates around the preparedness of graduates for the multiple realities of the world of work, particularly in the SA health sector.^[4-6] A review of up-to-date empirical evidence on the implementation of policies at the

grassroots level suggests that current health professionals are challenged with providing services at almost all levels within the spheres of the district health system.^[7,8] Such challenges are evidenced by the rising incidence of medical malpractice cases, which have negative consequences on the financial resources of the health system, particularly in the public health sector.^[9] The imminent implementation of the National Health Insurance (NHI) Bill will have dire consequences on the health resources for service delivery and may cripple attempts of achieving universal access to quality healthcare for all.^[10,11]

Considering the present challenges within health service delivery in SA, it may be postulated that the current training of healthcare workers does not adequately prepare them for the demands of the SA healthcare system. This situation necessitates the adoption of newer approaches to health science education that will improve outcome competencies such that graduates are responsive to the needs of the healthcare system. DCTP is one of the innovative teaching approaches to facilitate preparedness of health science graduates for the health system through fostering education in an authentic learning environment.^[12] It is suggested that DCTP provides broader student exposure to a range of patients in terms of the ecology of healthcare, thereby improving the students' competencies.^[13]

A review of the current practices of universities that provide teaching and learning through DCTP has revealed that this has typically occurred in the rural context, in primary level facilities, community-based centres and district hospitals.^[14,15] Research studies further show that undergraduate medical students, to a large extent, have been at the centre of the implementation and roll-out of DCTP.^[15-17] While there is evidence

to suggest that other health professionals such as nurses, occupational therapists, physiotherapists and audiologists have also been taught using this approach at certain universities in SA,^[18-20] there is a paucity of data on the models and approaches to DCTP implementation among these health science disciplines, particularly in SA.^[21] Data on DCTP implementation approaches also suggest a lack of clarity regarding the teaching philosophy within these programmes.^[14] Gaede^[2] argues that DCTP is an essential component in the endeavour to increase graduate output and improve graduate competencies of health professionals.

The literature on DCTP models in SA reveals that implementation has predominantly been in traditional universities that offer medical degrees and qualifications for health professionals who are part of the multidisciplinary public health sector.^[2,14] In these universities, the implementation of DCTP has for the most part been through a partnership of the university with the ministry of health and selected communities where decentralised community-based, public healthcare and district health facilities are chosen as decentralised sites for clinical training of students.^[14,22] Considering the current health policy changes related to the SA NHI policy, higher education institutions have not implemented DCTP by taking cognisance of the NHI, particularly as it pertains to the co-operation between the public and private sectors. Moreover, universities of technology in SA have not implemented DCTP, particularly within the context of health science disciplines that form part of the multidisciplinary public and private health sector, including orthodox and complementary health science disciplines.

The Durban University of Technology (DUT) offers a variety of health science programmes in the Faculty of Health Sciences (FHS). The FHS is anchored by the vision and mission of the DUT, which is under the operational guidance of the ENVISION2030 strategy. The FHS comprises 11 departments, i.e. basic medical sciences; biomedical and clinical technology; chiropractic; community health studies; dental sciences; emergency medical care and rescue; homeopathy; medical orthotics, prosthetics; nursing; somatology; and radiography. Collectively, the faculty offers 14 health science-related programmes at undergraduate and postgraduate levels, ranging from advanced diplomas, postgraduate diplomas, Master and PhD qualifications. The faculty operates within the dictates of the minimal requirements set for tertiary education by the Department of Higher Education and Training (DHET), Council on Higher Education (CHE). The FHS also operates within the legal requirements of the various professional boards linked to the Health Professions Council of SA (HPCSA), Allied Health Professions Council of SA (AHPSCA), SA Nursing Council (SANC), SA Dental Technicians Council (SADTC) and Council for Social Services Professions (CSSP). In terms of clinical teaching and learning, work-integrated learning has been an integral part of the FHS curriculum to enable graduates to integrate theory into practice to foster a culture of graduates who are fit for the world of work.

The implementation of DCTP at an FHS at a university of technology will be a first in SA history, commencing with the DUT. The proposed model will be unique because it will include roll-out of DCTP with traditional and complementary health science disciplines. The implementation, however, will begin with a pilot study in three different departments: Radiography, Emergency Medical Care and Clinical Technology. DCTP implementation will subsequently be scaled up to include the remaining health disciplines, based on the outcomes of the initial pilot programmes. The envisioned DCTP model of the DUT will address gaps in existing models whose central practice has mainly been around medical students, and will also allow for the

development of graduates who are better adapted to work in the SA health system. The model will be achieved through the learning opportunities created by DCTP by facilitating learning through real-time exposure to the multiple realities of the health system.^[23] Clinical teaching and learning within the DUT DCTP will therefore take place in decentralised public and private health facilities at all levels within the spheres of the national health system (primary, secondary and tertiary level healthcare). This will facilitate exposure to the multi-faceted SA health system and simultaneously address the growing demand of clinical service placement that the faculty faces, which is similar to that of other higher education institutions.^[23-25]

The broad objective of this initiative is to establish an effective decentralised training programme within the FHS at the DUT to:

- Produce health science graduates who are responsive to the health system in line with the DUT ENVISION2030 strategy and broad national and international health service delivery model.
- Train graduates who can engage in multidisciplinary, intersectoral and interprofessional practice for health service delivery to respond to the health needs of KwaZulu-Natal Province and the country.
- Propose a DCTP model that will enhance student learning experiences and produce graduates that are better fit for purpose.

Conclusion

This article seeks to add to the advocacy for the implementation of decentralised clinical training programmes, particularly in the broader health science disciplines, for enhancing health science education and practice. The article also opens discussion on the implementation of decentralised clinical training within the context of universities of technology, with an emphasis on orthodox and complementary health science disciplines. Furthermore, this manuscript provides insights into the proposed plan and objectives of implementing a decentralised clinical training programme in the specific context of the DUT.

Declaration. None.

Acknowledgements. We acknowledge the office of the Deputy Vice-Chancellor: Teaching and Learning, for providing support for this project.

Author contributions. CTN: conceptualised and wrote the first draft of the manuscript and reviewed the final version before submission; GGM: reviewed the first draft of the manuscript and assisted in finalising the manuscript for submission; MM: reviewed the first draft of the manuscript and provided expert insight regarding the contents of the literature.

Funding. Funding support from the Faculty of Health Sciences, Durban University of Technology.

Conflicts of interest. None.

1. De Villiers M, van Schalkwyk S, Blitz J, et al. Decentralised training for medical students: A scoping review. *BMC Med Educ* 2017;17(1):1-13. <https://doi.org/10.1186/s12909-017-1050-92>
2. Gaede B. Decentralised clinical training of health professionals will expand the training platform and enhance the competencies of graduates. *S Afr Med J* 2018;108(6):451-452. <https://doi.org/10.7196/SAMJ.2018.v108i6.13214>
3. Frambach JM, Manuel BA, Fumo AM, van der Vleuten CP, Driessen EW. Students' and junior doctors' preparedness for the reality of practice in sub-Saharan Africa. *Med Teach* 2015;37(1):64-73. <https://doi.org/10.3109/0142159X.2014.920490>
4. Bullen J, Roberts L, Hoffman J. What predicts health students' self-reported preparedness to work in indigenous health settings? *Austral Educ Res* 2017;44(1):71-87. <https://doi.org/10.1007/s13384-017-0230-2>
5. Djukic M, Stimpfel AW, Kovner C. Bachelor's degree nurse graduates report better quality and safety educational preparedness than associate degree graduates. *Joint Comm J Qual Patient Safety* 2019;45(3):180-186. <https://doi.org/10.1016/j.jcjq.2018.08.008>
6. Calma KRB, Halcomb E, Stephens M. The impact of curriculum on nursing students' attitudes, perceptions and preparedness to work in primary health care: An integrative review. *Nurse Educ Pract* 2019;39:1-10. <https://doi.org/10.1016/j.nepr.2019.07.006>
7. Lieketseng N, Cloete L, Mji G. The experiences and challenges faced by rehabilitation community service therapists within the South African primary healthcare health system. *Afr J Disab* 2017;6(1):1-11.

8. Mutshatshi TE, Mothiba TM, Mamogobo PM, Mbombi MO. Record-keeping: Challenges experienced by nurses in selected public hospitals. *Curationis* 2018;41(1):1-6.
9. Malherbe J. Counting the cost: The consequences of increased medical malpractice litigation in South Africa. *S Afr Med J* 2013;103(2):83-84. <https://doi.org/10.7196/SAMJ.6457>
10. Oosthuizen W, Carstens PA. Medical malpractice: The extent, consequences and causes of the problem. *J Contemp Roman Dutch Law* 2015;78:269.
11. Coetzee L, Carstens P. Medical malpractice and compensation in South Africa. *Chi-Kent Law Rev* 2011;86(3):1263.
12. Malinga BM, Naidoo D, Gurayah T, Govender P. Clinical educators' experiences of the decentralised training platform for occupational therapy students in KwaZulu-Natal, South Africa. *Afr Health Sci* 2021;21(4):1941-1949. <https://doi.org/10.4314/ahs.v21i4.53>
13. Hansraj R, Buthelezi S, Cassimjee Z, et al. Decentralised clinical training in optometry: Student perspectives. *Afr Vision Eye Health* 2022;81(1):8. <https://doi.org/10.4102/aveh.v81i1.742>
14. Dreyer AR, Rispel LC. Context, types, and utilisation of decentralised training platforms in undergraduate medical education at four South African universities: Implications for universal health coverage. *Cogent Educ* 2021;8(1):1906493. <https://doi.org/10.1080/2331186X.2021.1906493>
15. Caldwell R, Aldous C. The National Health Insurance, the decentralised clinical training platform, and specialist outreach. *S Afr Med J* 2017;107(1):39-40. <https://doi.org/10.7196/samj.2017.v107i1.12008>
16. Kibore MW, Daniels JA, Child MJ, et al. Kenyan medical student and consultant experiences in a pilot decentralised training program at the University of Nairobi. *Educ Health (Abingdon, England)* 2014;27(2):170. <https://doi.org/10.4103/1357-6283.143778>
17. Talib Z, van Schalkwyk S, Couper I, et al. Medical education in decentralized settings: How medical students contribute to health care in 10 sub-Saharan African countries. *Acad Med* 2017;92(12):1723. <https://doi.org/10.1097/ACM.0000000000002003>
18. Baloyi OB, McHunu GG, Williams C, Jarvis MA. A road less travelled: Undergraduate midwifery students' experiences of a decentralised clinical training platform. *Health SA* 2020;25:1473. <https://doi.org/10.4102/hsag.v25i0.1473>
19. Van Staden D. Decentralised clinical training in optometry: A developmental strategy for eye health in KwaZulu Natal? *Prim Health Care Res Dev* 2019;20. <https://doi.org/10.1017/S1463423618000397>
20. Chemane NCT, Chetty V, Cobbing S. Mapping evidence on community-based clinical education models for undergraduate physiotherapy students: Protocol for a scoping review. *JMIR Res Protocol* 2020;9(10):e19039. <https://doi.org/10.2196/19039>
21. Kuschke S, Roux TI, Scott AJ. Decentralising paediatric hearing services through district healthcare screening in Western Cape Province, South Africa. *Afr J Prim Health Care Fam Med* 2021;13(1):1-7. <https://doi.org/10.4102/phcfm.v13i1.2903>
22. Govender P, Chetty V, Naidoo D, Pefile N. Integrated decentralized training for health professions education at the university of KwaZulu-Natal, South Africa: Protocol for the i-dec project. *JMIR Res Protocol* 2018;7(1):e7551. <https://doi.org/10.2196/resprot.7551>
23. Mlambo M, Dreyer A, Dube R, Mapukata N, Couper I, Cooke R. Transformation of medical education through decentralised training platforms: A scoping review. *Rural Remote Health* 2018;18(1):1-16.
24. De Villiers MR, Blitz J, Couper I, et al. Decentralised training for medical students: Towards a South African consensus. *Afr J Prim Health Care Fam Med* 2017;9(1):1-6.
25. De Villiers M, Conradie H, van Schalkwyk S. Teaching medical students in a new rural longitudinal clerkship: Opportunities and constraints. *Ann Glob Health* 2018;84(1):58-65. <https://doi.org/10.2902/aogh.17>

Accepted 11 August 2023.