South Africa celebrates 15 years of clinical associates

Scott Smalley, PA-C, BSc, MScPAS, PGDHSE; Aviwe Mgobozi, BCMP, PGDHSE, MPhil HPE

ABSTRACT

Clinical associates (ClinAs) in South Africa are modeled after physician associates in the United States and the Netherlands and clinical officers elsewhere in Africa. The first ClinAs began their education in 2008 and started working in 2011. Three universities offer a 3-year bachelor of clinical medical practice degree. This article documents the nascent healthcare profession's origins, development, current status, and future. In the next decade, South Africa needs to address the challenges of ClinA supervision with tiered practice regulations, combat unemployment, and increase graduate retention by developing career paths.

Keywords: clinical associate, PA, clinical officer, South Africa, healthcare workforce, health science education

South Africa celebrated 15 years of clinical associate (ClinA) education and medical practice in 2023. The ClinA has become an integral part of healthcare delivery, adding value to an overburdened healthcare system in South Africa (**Figure 1**).[1] The first cohort commenced studies in 2008; to date, 1,581 students have graduated and 600 are enrolled at the three universities offering the 3-year bachelor degree.[1] ClinAs are modeled after physician associates/assistants (PAs) in the United States, PAs in the Netherlands, and clinical officers in Kenya and Tanzania.[2] Similar PA analogue healthcare professionals exist in more than 53 countries, providing medical care for common conditions and working in interdisciplinary medical teams in government, private, and nongovernmental healthcare systems.[3]

In the early 2000s, during the development of the ClinA profession, South Africa faced health burdens from HIV, tuberculosis, pneumonia, diabetes, and motor vehicle accidents.[4] Historically, South Africa has the highest number in the world of people living with HIV.[5] Between 1995 and 2000, the prevalence of HIV grew from 10.4% to 22.4%.[6] Also at this time, South Africa faced a shortage and maldistribution of RNs and physicians, particularly in rural areas, with a ratio of 0.77 physicians to 1,000 persons, below the World Health Organization recommended ratio of 1 to 1,000.[7] Another significant healthcare challenge is South Africa's unequal parallel public and private healthcare sectors, with 70% of the population obtaining care in the public system, which only employs 30% of physicians. More than 70% of physicians work in the private healthcare sector, treating the 30% of the population who can afford private healthcare with medical insurance or out-of-pocket costs.[7] The public sector received 48.7% of aggregate healthcare spending and the private sector received 51.3% as of 2019.[8]

This disparity, along with the growing communicable/noncommunicable disease burden and shortage of medical personnel, motivated the Ministry of Health to seek alter-

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FIGURE 1. South Africa is the southernmost country in Africa, with 60.6 million people and a historically strong economy supported by a well-developed infrastructure for commerce, education, and healthcare. ClinA programs are offered in Gauteng province at the University of Pretoria and University of the Witwatersrand in Johannesburg, and Walter Sisulu University in Mthatha, Eastern Cape province.[31]

Scott Smalley is the president of the International Academy of Physician Associate Educators, and the previous head of the Division of Clinical Associates and a lecturer at the University of the Witwatersrand, Johannesburg (South Africa). **Aviwe Mgobozi** is a registered clinical associate, the head of the Division of Clinical Associates and a lecturer at the University of the Witwatersrand, Johannesburg. The authors have disclosed no potential conflicts of interest, financial or otherwise.

Kathy Pedersen, MPAS, PA-C, department editor

DOI:10.1097/01.JAA.0000997724.95460.7c

native and innovative solutions. The result was the inception of the ClinA profession.

ORIGINS AND HISTORY

In 2001, the Ministerial Task Team on Human Resources for Health (HRH) released the first comprehensive report on healthcare staffing, which recommended a new healthcare professional to support staffing gaps caused by low production, undersupply, and maldistribution of healthcare workers.[9] In 2004, the National Health Act was updated, granting the health minister authority over HRH strategy.[9] This was followed in 2006 with a report outlining a plan for implementing the training of midlevel workers, including medical assistants, the proposed title at the time.[10] The health minister was a strong supporter of the new profession, and had the legal authority to mobilize the national and provincial departments of health.[11]

In 2005, researchers collected information on the top 100 conditions seen in district hospitals and the tasks performed by healthcare workers that could be shifted to a new midlevel worker.[12] The report interviewed physicians and RNs about 194 procedural tasks that could be shared. Physicians agreed that a new healthcare professional would likely benefit patient care.[12] Many studies demonstrate that when a ClinA, clinical officer, or PA joins the healthcare team, task shifting results in similar healthcare outcomes, increased patient satisfaction, reduced waiting times, and reduced workload for other healthcare workers.[13-16]

Equipped with a rationale, research, and motivation by the health minister, a Clinical Associate National Task Team was developed under the Family Medicine Consortium and was assigned to draft a standard curriculum. A draft scope of practice was developed, outlining clinical practice with a detailed list of skills and core conditions from the top 100 conditions report.[12] The consortium gained curriculum approval from the South African Qualifications Authority, the Council on Higher Education, the Health Professions Council of South Africa (HPCSA), the National Department of Health, and the Department of Higher Education and Training. The Department of Labour was involved in recognizing the new category of workers.[17] Multiple stakeholder meetings were necessary for all levels of bureaucracy to approve the new education program and healthcare profession. South Africa benefited from international experts providing input on the professional title, scope, structure of registration, curricula, and implementation processes. The term *clinical* was taken from the clinical officer, the most common title in Africa. The term *associate* was borrowed from the PA title to demonstrate collaboration and teamwork between the members of the healthcare team.

Two months before the first cohort was to graduate and begin clinical practice, the Department of Health circulated a national document describing the ClinA role in the clinical setting. Six years later, the official scope of practice became law. Delays by the government to implement policy for the new profession, following elections and ministerial reshuffle, hampered the burgeoning profession. Fortunately, a nongovernmental organization, the American International Health Alliance (AIHA), paired the South African ClinA education programs with US-based PA programs through their AIHA Twinning Centre Programme. The twinning process provided needed support and collaboration in the early stages of growth, igniting the education process.[1]

EDUCATION PROGRAM

Three of the 10 universities with medical schools in South Africa offer a ClinA program. Walter Sisulu University, which started the first cohort in 2008, was followed in 2009 by the University of Pretoria and the University of the Witwatersrand, Johannesburg (known as Wits).[18] To help the programs get started, each university was matched with a PA program in the United States to provide collaboration and support with funding through the AIHA twinning program.

The twinning experience helped develop the curriculum design of the three universities, providing students with early patient contact, self-directed learning, experiential learning, and workplace-based learning (**Figure 2**). Students are expected to continuously integrate theory and practice to deepen their understanding of medical topics and to be confident in identifying and managing medical conditions common in South Africa.[12] Students are taught the necessary medical knowledge, skills, and professional behaviors required to assess and manage patients according to their scope of practice. The focus is primary healthcare with generalist training and exposure to multiple clinical disciplines.[19,20] The programs are accredited by the HPCSA.

More than a decade of ClinA training has led to curricular innovation. Walter Sisulu University uses rural hospital sites for student learning throughout the 3 years. The pivotal teaching methodology centers on problem-based learning activities and situated learning occurring directly in the hospitals, with students rotating through clinical disciplines.

Wits embraced the 21st-century health science education recommendations for competency-based, work-based, interprofessional, and technology-enhanced learning.[21] In 2014, the twinning program provided each Wits ClinA student with a tablet device to access the online learning management system and to record patient encounters, clinical skills, and educational evaluations. Tablet devices allow access to all educational materials and empower students to become familiar with information search strategies.

The University of Pretoria program mimics the others, with early clinical exposure combined with medical health sciences taught at the medical school and adjacent district hospitals. Students are placed in clinical groups at hospitals,

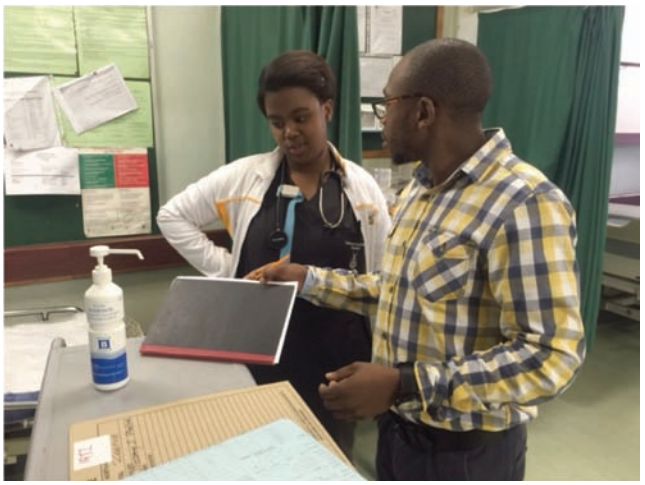

FIGURE 2. ClinA student Kutlwano Leotlela (left) is taught by ClinA preceptor Lebogang Makofane in the medical ward at Zeerust Hospital in Zeerust, North West province
Photograph by Scott Smalley

performing rotations through outpatient, accident and emergency, internal medicine, HIV medicine, infectious disease, maternity, pediatrics, mental health, surgery, orthopedics, and anesthesia.

All final-year students in the three universities complete the online Clinical Associate National Examination (CANE). The National Clinical Associate Academic Team, consisting of university representatives, provides the educational leadership and planning of the national examination. This standardization model ensures that all ClinAs meet the core competencies. To date, 1,581 students have graduated, with an average of 120 students completing the CANE each year.[22] This number is expected to double as the universities increase their cohort sizes. One postgraduate degree in emergency medicine tailored for bachelor of clinical medical practice graduates is offered at Wits. Completion allows graduates to enter various health science-related master's degree programs. The profession recently celebrated the first ClinA with a doctorate in public health.

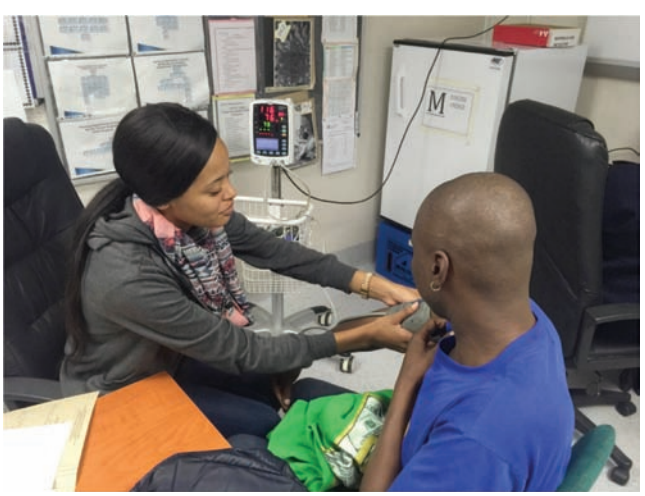

FIGURE 3. ClinA Randy Afrikander takes a patient's BP in the outpatient department at Bertha Gxowa Hospital in Germiston, Gauteng province.
Photograph by Scott Smalley

PROFESSIONAL PRACTICE

ClinAs are regulated by the HPCSA to practice medicine after they earn their degree and pass the national examination. They are registered under the Medical and Dental Professions Board, pay an annual fee, and must complete a set number of continuing medical education hours every 2 years. No recertification examination exists at this time. Foreign-trained PA or PA analogue graduates can petition HPCSA for verification of qualifications enabling them to sit for the CANE. Upon passing both a theory and practical section, the candidate is registered with the HPCSA. Foreigners also must obtain a work permit.

ClinAs are trained in the medical model, and can perform patient consultations and examinations, order and interpret laboratory tests and studies, and complete a multitude of diagnostic and therapeutic procedures (**Figure 3**).[23] Per the scope of practice, they diagnose, manage, and treat common conditions under supervision.[24] A ClinA with less than 2 years in practice must perform all duties under the direct supervision of a physician. From 2 to 4 years, ClinAs work under indirect supervision, reporting to their supervisor after completing tasks. After 5 years of continuous clinical practice, they can perform tasks independently.[24] However, they must always be able to contact their supervising physician. In addition to providing quality care, ClinAs are a cost-effective solution to overstretched healthcare budgets, with 2.4 ClinAs hired for the salary cost of one physician. A team of 11 physicians can become a team of 6 physicians and 12 ClinAs at the same salary cost to the employer.[1,25]

ClinAs are trained for and approved in the scope to prescribe medication up to Schedule IV and higher schedules in an emergency. However, 15 years after the inception of the profession, South African law has yet to recognize ClinAs as authorized prescribers. As of 2023, ClinAs need their supervisor's signature on all prescriptions. These and other work-related issues have hampered many ClinAs on a national level, where there often is a lack of available supervision.

In 2013, the early graduates of the profession organized the Professional Association of Clinical Associates of South Africa (PACASA). This group subsequently addressed the work issues facing clinical associates. During 2015-16, PACASA became vocal about the government's lack of progress on issues negatively affecting the profession: supervision problems, limited government posts, and reduced student funding for ClinA training. The government responded with the formation of a second Clinical Associate National Task Team to identify the areas of

TABLE 1. Graduate employment locations from 2016 and 2018 PACASA database and 2023 informal survey conducted by Wits Division of Clinical Associates[26,27]

Percentages may not total 100% because of rounding.

	2016		**2018**		**2023** *(200 responses, informal survey)*	
	Total	**%**	**Total**	**%**	**Total**	**%**
Work in government/public healthcare system	526	81	456	49	64	32
Work in private healthcare	16	3	198	21	56	28
Work in NGOs	40	6	56	6	24	12
Work in universities	12	2	14	1	14	7
Study other health science	37	6	37	4	20	10
Left profession	10	2	31	3	22	11
Other (unaccounted for)	9	1	145	15		
Total graduates	650		937			

concern; recommendations were provided in 2017.[25] Unfortunately, the government remained silent on the report and recommendations. Because of the lack of government posts, ClinAs started seeking employment in the private and nongovernmental organization (NGO) sectors. As the graduate surveys from PACASA in 2016 and 2018, and a Wits survey in 2023 demonstrated, the government was the largest employer in 2016, with 81% of the graduates working for the public healthcare sector and 3% employed in the private health sector. However, the limited number of ClinA government posts has reduced this number to 49% in 2018 and 32% in 2023. Private employment of ClinAs has increased from 21% in 2018 to 28% in 2023 (**Table 1**).[26,27]

Many ClinA graduates were looking for work during these years, and many experienced ClinAs joined academia, becoming lecturers and providing role models for the profession. Others entered research, and many pursued higher degrees or left the profession. In response to the shortage of government posts, Wits' Division of Clinical Associates organized the Private Practice Symposium to support ClinA employment in the private sector by developing guidelines for physicians to hire, supervise, and employ ClinAs.[28] The COVID-19 pandemic substantially increased both public and private employment of ClinAs, who joined healthcare teams to triage, treat, and convalesce the more than 4 million patients with COVID-19 in the country during the 3-year pandemic.[29] Provincial government hospitals hired ClinAs in COVID-19 units; the ED; and in outpatient, internal medicine, and obstetrics departments. Private fee-for-service clinics and private physicians and corporations, such as the mining industry, hired ClinAs. Many were required for research, with several hired by South Africa's National Institute for Communicable Diseases. Substantial numbers of ClinAs were hired in response to COVID-19, which increased their recognition and value-add to the healthcare system. Despite the value shown by ClinAs during the pandemic, the national Department of Health was still silent on support for the profession. Just before the pandemic, PACASA lodged a complaint to the South Africa public protector office (similar to the US Attorney General) requesting an investigation into the delays and negligence of the health department to respond to the second Clinical Associate National Task Team report recommendations. In 2021, the public protector required the health department to take up the recommendations. Following COVID-19 delays, PACASA now is working collaboratively with the health department and other relevant stakeholders, developing detailed timelines to achieve the much-needed results.[30]

CONCLUSION

Following the public protector report, efforts are underway to create a pathway for ClinAs to practice without the inefficiencies of supervision, and to obtain prescribing rights. Increasing the number of postgraduate programs will provide an academic pathway and additional clinical expertise. The next decade will be pivotal in continuing to develop the education and practice of ClinAs. **JAAPA**

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