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Jack of all Trades, Master of None? Rethinking Specialization and Professional Pathways for Nigerian Anatomists

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ABSTRACT

Nigerian anatomy education offers valuable intellectual breadth, yet many students and graduates struggle to connect their qualifications in anatomy with clearly recognized professional roles. This editorial argues that the problem is institutional rather than individual. Specialization may improve competence and professional identity, but new course labels alone cannot create employment, legal authority, or workplace readiness. Credible pathways must link demonstrated workforce needs with defined competencies, supervised training, robust assessment, recognized qualifications, and clear scopes of work. Nigeria also requires a modern regulatory framework grounded in public protection rather than occupational expansion. We propose national workforce and capacity mapping, competency standards, independently assessed pilot programs, and coordinated legislative reform to convert anatomical breadth into accountable expertise and socially valuable work.

Keywords: Anatomy, specialization, professional identity, workforce development, Nigeria

INTRODUCTION

The question in this title is deliberately uncomfortable. A 2017 inaugural lecture recast the familiar proverb as "jack-of-all-trades, master of all," celebrating anatomy's intellectual reach.¹ That reach is real. Anatomy connects gross anatomy, cell and tissue biology, development, neuroscience, imaging, anthropology, and education. Yet many Nigerian anatomy students and graduates perceive limited career prospects and an unclear professional pathway.² The problem is not a lack of achievement among individual anatomists. Rather, educational, professional, and regulatory institutions have not clearly defined how anatomical expertise translates into recognized work.

Calling anatomists "masters of none" unfairly blames individuals for a wider institutional problem. Breadth allows anatomists to relate form to function, normality to variation, development to disease, and foundational science to clinical and technological applications. Breadth becomes a

disadvantage when it is not supported by deeper training, proven competence, practical experience, and clear professional roles and scope of practice. Graduates who appear uncertain may therefore be responding to weaknesses in the system.

Breadth without jurisdiction

Professional identity is not created by knowledge alone. Professionalization depends partly on jurisdiction - the recognized link between expertise and a defined area of work.³ This is a central problem of anatomy in Nigeria. Advanced anatomical knowledge is not enough. It must translate into roles, competencies, and responsibilities that employers, regulators, and the public can understand. Where an employer cannot infer what an anatomy qualification enables its holder to do, disciplinary breadth becomes occupational ambiguity.

The National Universities Commission's standards for anatomy appropriately describe a broad B.Sc.

program that includes practical training, industrial attachment, entrepreneurship, and research.⁴ These are worthwhile ambitions, but employability skills alone do not define an occupation. Analytical ability, teamwork, and entrepreneurship do not independently authorize clinical, diagnostic, forensic, or other regulated acts. The decisive question is not simply what additional courses anatomy programs can offer, but what work a graduate or postgraduate should be competent, permitted, and accountable to perform.

Specialization beyond the transcript

Specialization can deepen expertise, improve mentorship, and give employers a more specific signal of competence. The Anatomical Society of Nigeria has identified postgraduate directions including forensic anthropology, human genetics and genomics, clinical embryology and andrology, kinanthropometry and sports anatomy, and mortuary science.⁵ These proposals can form part of a wider framework rather than become the only recognized options. Such initiatives recognize that one undifferentiated identity cannot serve every learner or field of practice.

However, a list of courses does not constitute a professional pathway. A specialization recorded on a transcript is neither a job description, a professional license, nor proof of workplace competence. In Nigeria, employment also depends on available jobs, legal recognition of professional roles, employer acceptance of qualifications, and clear recruitment pathways. Specialization is therefore a double-edged reform: it can clarify competence, but without recognized roles and employment pathways, it may create new credentials without creating new opportunities.

This distinction is especially important at the undergraduate level, where anatomy students need a strong foundation and realistic guidance about the professional value and limitations of their qualifications. The B.Sc. curriculum should retain a broad foundation in anatomy while allowing students to explore areas of interest through electives, placements, projects, or clearly defined concentrations. Such exposure should not be treated as professional certification or authority for independent practice. Formal specialization should normally require postgraduate or post-qualification training, supervised practice, and appropriate assessment.

Building credible pathways to specialization

A credible specialty must connect a demonstrated workforce or societal need with institutional capacity, defined competencies, supervised experience, robust assessment, a recognized

qualification, and a clear scope of work. Together, these elements distinguish a professional pathway from a collection of courses or an academic concentration.

Nigerian anatomists and institutions have already established laboratories, research programs, and training initiatives in specialized fields.^{6,7} These achievements demonstrate local capacity, but they remain institution-specific rather than parts of a coordinated national system. They should be connected and strengthened through shared facilities, cross-university mentorship, joint training, supervised placements, external quality assurance, and succession planning. The aim is to build pathways that can be sustained across institutions and over time.

Candidate areas for national mapping and pilot development include clinical embryology and assisted reproductive technology; forensic anatomy and anthropology; mortuary science and the ethical management of human remains; imaging anatomy; neuroscience; human genetics and genomics; cellular and molecular anatomy; histochemistry; anatomy education; sports anatomy and kinanthropometry; and anatomical applications in biomechanics, prosthetics, and digital technologies. These are candidates for evaluation, not a fixed list of specialties or automatic rights to practice. Some are primarily academic or research fields, while others overlap with regulated professions. Each proposed pathway must therefore be supported by evidence of need and developed with employers, relevant regulators, and professional partners. An institution should offer a specialty only when independent assessment confirms that it has qualified faculty, appropriate facilities, access to relevant cases, specimens, or data, ethical and legal governance, supervised placements, and robust assessment. National coordination and quality should take priority over every university attempting to offer every specialty.

Regulation in the public interest

The legal gap for achieving professionalization in anatomy is clear. Although now codified as Cap. A16 of the Laws of the Federation of Nigeria 2004, the Anatomy Act commenced in 1933. Its focus is the licensing of schools of anatomy and the lawful receipt, use, documentation, and interment of human bodies.⁸ It does not establish a modern system for registering anatomists, recognizing specialties, monitoring continuing competence, or addressing professional misconduct.

Efforts to replace the Act have made some legislative progress. The Anatomy Bill (HB 1637) passed its third reading in the House of Representatives on 31 May 2023. However,

passage by the House alone did not make it law. The Bill was reintroduced in the Tenth Assembly as HB 1032 and received its first reading on 1 December 2023.⁹ The Anatomy Council therefore remains a proposal rather than an operational regulator.

The published Bill provides a useful starting point. It proposes that the Council work with the National Universities Commission on anatomy training and curricula, regulate specified anatomy laboratories, maintain a professional register, issue individual and institutional licenses, and develop codes of conduct.¹⁰ However, its proposed reach extends beyond university anatomy to mortuaries, funeral homes, and the handling and transportation of human remains. Such a broad mandate requires clearly defined boundaries, coordination with existing regulators, and appropriate representation of affected professions and the public.

A revised Bill should clearly distinguish an academic qualification, professional registration, a license to practice, and formal specialist recognition. Each title should be linked to defined competencies and a clear scope of work. The law should also provide for supervised training, assessment, license renewal, continuing competence, complaints, discipline, appeals, and transparent professional registers. These are essential safeguards for credible regulation.

The strongest justification for an Anatomy Council is public protection: preserving the dignity of donors and the dead, ensuring safe and ethical laboratories and mortuaries, and ensuring that those who use professional titles are competent and accountable. Its purpose should not simply be to expand the occupational territory of anatomists. A Council cannot create jobs, placements, facilities, faculty expertise, or employer demand through legislation. It can establish credible standards, but universities, employers, professional associations, and government must build the capacity and opportunities that make those standards meaningful.

From advocacy to implementation

The Anatomical Society of Nigeria and allied professional bodies need not await a Council to begin preparatory work. First, a national workforce and capacity map should establish where graduates work, what employers need, which service gaps exist, where scopes of practice may overlap with other professions, and which institutions can support the identified specialized training. Second, a national competency framework should distinguish the common undergraduate core, exploratory concentrations, postgraduate specialties, and any legally authorized advanced practice. Each pathway should publish its

admission criteria, learning outcomes, practical requirements, supervision, assessment, title, scope, exclusions, and requirements for maintaining competence.

Third, limited pilots should operate in institutions meeting agreed thresholds, with external assessment and shared placements where appropriate. Success should be judged by demonstrated competence, ethical compliance, employer confidence, service or research value, and employment related to acquired skills, not enrollment alone. Finally, evidence from mapping and pilots should shape legislation, the Council's relationship with the National Universities Commission and other regulators, and standards for specialist recognition. Relevant employment must be measured, not promised. A Council without a workforce strategy, risks becoming a registration office; specialties without placements remain labels.

CONCLUSION

Nigerian anatomists need not choose between breadth and depth; the profession must build pathways that turn broad knowledge into assessed competence, recognized roles, and socially valuable work. The question is not merely whether anatomists should specialize, but whether we are prepared to establish and be accountable to the standards that make specialization credible.

Conflict of interest: The authors have no conflict of interest to declare

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