

## UNIVERSITY OF ST ANDREWS SCHOOL OF MEDICINE - FIVE-YEAR STRATEGY

### Ambition

1. **Foundations.** The School of Medicine (SoM) is navigating towards the future as a clinically facing medical school. We expect excellent NSS and league table results, our research grant income is growing rapidly from all sources and most PG R students are externally funded. The faculty has trebled in a decade. A Director to the Sir James Mackenzie Institute of Early Diagnosis has been appointed.
2. **Context.** In a world characterised by uncertainty and challenges to the health workforce, the SoM is well placed to identify new opportunities and be reactive to new Government funded research priorities and medical student training. The SoM has contributed at a national level throughout the pandemic, and we aim to be involved in the national recovery and future pandemic preparedness. The first class of Scotland's only graduate-entry MBChB (**ScotGEM**) will graduate in 2022. We will engage with Scottish Government in relation to: the published expectation of 20% more GPs, 100 more medical students recruited over the duration of the next parliament, and the commitment to widen participation in medicine through a range of schemes, including the Gateway to Medicine scheme designed to ensure underrepresented groups have the opportunity to study medicine.
3. **The mission.** By 2026 the SoM will be established as a clinical medical school with a reputation for excellence in innovative areas of research, UG education, and Learning Technology. We will strengthen our clinical focus with relevant translational clinical research encompassing laboratory through to population-based studies on early diagnosis and management of health. We will have established a PGT programme focussed on health service staff. We will have strong partnerships with NHS Fife and other eminent stakeholders.
  - a. **Short-term** (2021 - 2023). Adopt the lessons learnt relating to novel ways of teaching and researching in the COVID era. Establish the Mackenzie Institute. Develop a Medical Devices innovation centre. Develop a suite of health related PGT programmes. Work with Government on their manifesto commitment for 100 new places in Scotland. Work with NHS Fife in transition to Teaching Board and the establishment of a Joint Research office that will sponsor clinical trials.
  - b. **Medium term.** (2023-2026). Commence the suite of PGT programmes and short courses. The Mackenzie Institute will have secured funding for research on early diagnosis and formed partnerships with world-leading institutions.
  - c. **Long term.** (2026 and beyond). By 2026 SoM will be recognised as an excellent clinical medical school delivering quality teaching across multiple award levels with an international research reputation in a university of global standing.

### Ends

4. **National and Global Research Objectives.** In the short and medium term SoM will be conducting world-leading research with impact on a collaborative basis in the following three areas.
  - a. **Early diagnosis of disease.** The Mackenzie Institute research plan will draw together on global needs with some of our existing areas of expertise: digital diagnostics, emerging technologies, diagnostic pathways, translational science, biophotonics and data science in early diagnosis.
  - b. **Digital and data-driven Health Science.** Our research groups will lead and collaborate on national and international projects using UK's digital health infrastructure and data. We will contribute to the work of HDR UK, create innovative data driven projects supporting patient care and develop career pathways from UG to independent research fellow.
  - c. **Innovation in Medical devices.** An innovation centre, part of the Mackenzie Institute, will be built round the [Arclight](#) suite and other innovative medical devices in development with expert advice from St Andrews Applied Research Limited and the global eyecare community. The

objective is production and distribution of innovative diagnostic devices that aid healthcare workers. Sales will enable funding of altruistic distribution of devices and further research.

5. Both the Mackenzie Institute and the work in digital and data driven health science have interdisciplinary collaboration and cross institutional connectedness at their heart. We have existing academic and clinical connections in Europe, North America and Africa and are exploring opportunities in China alongside the Vice Principal of International and External Relations at the University. Our partnership with the NHS, in Fife and further afield, will continue to grow in importance.

6. **Excellence in Teaching and Education Research.** Our excellence in teaching is built on successful partnerships with partner Medical Schools in the UK, abroad and Scottish Health Boards. Success, evident in NSS scores, is also marked with the award of the first Scottish graduate entry medical programme. We expect that teaching excellence will be nationally recognised in six areas:

a. **The BSc (Hons) Medicine.** Unique in the UK, this degree gives greater grounding in basic science integrated with clinical teaching and full body dissection but we will continue to adapt to ensure students have contemporary knowledge, skills and professionalism.

b. **ScotGEM graduate-entry MBChB.** Scotland's only graduate-entry MBChB is built round innovative community medical education hubs where teaching and research interacts with GPs and other community health professionals. This programme will continue to meet the needs of the NHS in Scotland, equipping students to be agents of change within the healthcare environment.

c. **Continued innovation in new programmes.** We will utilise our strengths and collaborations to capitalise on our renewed ability to award an MBChB to position ourselves for further Scottish medical student numbers. A programme of **Postgraduate Taught and Short courses** will be launched. This growth will allow expansion of our staff base.

d. **Medical Learning Technology.** As national leaders in the field we will continue to embed technology in all programmes.

e. **Pedagogical and staff excellence.** Development of education focused staff will include bespoke education research journal clubs, talks and training workshops to build networks and encourage research funding applications and professional accreditation. Development of educational research will be supported with PhD studentships and intermediate fellowship programmes. The SoM promotes networking and engagement via institutional groups and externally through membership of the Association for the Study of Medical Education and the Scottish Medical Education Research Consortium as well as external visits and reviews.

f. **Supporting our students and their diversity.** We will develop a cohort of students with a wide range of healthcare experiences and cultural backgrounds benefits all learners. The International Foundations of Medicine programme for overseas students and The Gateway to Medicine for home students provides a global and diverse route into Medicine for applicants from about 25 countries who would not normally enter Medicine. We will continue to build upon our widening participation and outreach activities to empower students from all backgrounds. We are committed to the British Medical Association's Racial Harassment Charter as well as the decolonisation of our curriculum and will continue to ensure a breadth of opportunity and support for all students in a supported, nurturing environment.

## Ways

7. **Achieving our Objectives.** The plan for development has 4 pillars for delivery:

a. **A strong partnership with NHS Fife.** The existing St Andrews / NHS Fife partnership will be structured and strengthened through working with NHS Fife to establish teaching/nodal Board status, a joint research office and joint clinical academic recruitment committee. Clinical academic recruitment will be undertaken as a joint process to ensure that academic excellence matches NHS

Fife needs. **Clinical Academic training** will also be developed with NHS Fife and will include; [SCREDS lecturer posts](#), [Post-Training fellowships](#), [Clinical PhDs](#) and post-doctoral appointments.

b. **Mackenzie Institute.** The compelling demand for early, fast, accurate and affordable diagnosis to ensure improved health outcomes will shape the research strategy of the Mackenzie Institute. We will focus on a collaborative approach between SoM and other St Andrews science schools whilst driving innovative new collaborations in search of substantial grant income and philanthropic donation. We will further develop and share technical innovation and commercialisation through contributing academic and entrepreneurial presence at the Eden Campus where we will support the development of “makers space”. We will continue to advance the possibility of an extended, international version of Mackenzie that would involve substantial investment by an international partner.

c. **New PGT programmes and micro-credentialed short courses.** Aligned to the needs of the health workforce these accessible opportunities will be provided flexibly with portfolio learning to have wide appeal. The target market is health sector professionals looking for intellectual stimulus and experiential learning in clinical knowledge, leadership and / or education. Planning is underway for courses in Health Service Leadership, Interprofessional Education and Early Diagnosis. Short courses will be aligned to the MSc Programmes or can be taken as ‘stand-alone’ modules; the current anatomy courses will be expanded, using our world-leading facility. Short courses are also an opportunity to work with qualified professionals who may not currently have the time but are obliged to conduct development activity as part of their professional registration. Several audit methodologies will be employed to ensure we deliver the expected societal benefit. The Health Board / University education partnership will sample the needs of the workforce and ensure that the education meets the emerging requirements in healthcare and health research. We anticipate Health Boards will sample the career impact of programme graduates to ascertain that these life-long-learning opportunities will improve the capability and morale of the individuals to the benefit of healthcare delivery.

8. **Differentiating Medicine at St Andrews.** It is anticipated that community focus and teaching infrastructure will positively differentiate this School from other Medical Schools:

a. **Community / Primary care focus.** This will be the underpinning focus for all our UG, graduate entry and future clinical programmes. We aspire to increase production of doctors to work in this area with enhanced exposure to primary care. It will also focus the work of the Mackenzie Institute, particularly round the pressing needs of those engaged in community oriented remote triage and diagnosis.

b. **Teaching Infrastructure.** Despite being 10 years young the School’s infrastructure is first class. Specifically, the full body **anatomy** suite, purpose built and interlinking with the adjoining ward-simulating **Clinical skills** centre delivers an outstanding learning environment for our students. The **eLearning** provision, bespoke and internally developed<sup>1</sup> uses high quality learning technology and underpins all we do.

## Means

9. **School Configuration, Structures and Systems.** Academic staff are assigned to one of four [Academic Divisions](#): Population and Behavioural Science, Cellular Medicine, Infection & Global Health and Education. The Mackenzie Institute is a cross school and cross science faculty entity. The **Professional Services** review of 2020 reconfigured the ~50 staff and their job plans.

10. **People and expertise:**

a. **Vision.** To ensure that our School is an outstanding place to work, where the principles of fairness and opportunity are fully embedded in our operations, and that our School and University

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<sup>1</sup> Medicine Learning Technology Team voted Health Education Support team of the year by NHS Education Scotland marking their unique and invaluable contribution to our strength.

are recognised internally and externally as a beacon of progressive, inclusive and fair practice and opportunity, where bias, bullying, discrimination and harassment are not tolerated. Full [Inclusion Statement](#)

b. **Recruitment.** New academic posts will have an overtly clinical function to reflect the strategic ambition of the school; for example, we aim to recruit Chairs of Medicine.

c. **Culture.** We have inclusion and wellbeing as core values; these are manifest in open meetings, and in the presence of a Wellbeing Officer and Continuous Improvement / Change Champions group. We will increase the number of women in chair positions by dynamic recruitment and supporting our existing staff. We will also recruit more clinical staff and ensure our staff base is more diverse. By the middle of 2022 we will have developed a settled approach to hybrid working which meets team, task and individual needs in addition to infection control imperatives and reducing travel carbon footprint.

d. **Achieving the aspiration.** The school has a solid base upon which to build: Athena Swan Bronze in 2014; high Postgraduate Research completion; exemplary student satisfaction rates; and an improving trend in EDI staff surveys. The 2020 review of leadership, committee and Professional Services (PS) staff structure provides a transparent and fair job plan for all, improved line management structure and a pathway for advancement for PS Staff. By focussing on the advancement for staff through intermediate fellowships, buddy schemes and pre-promotion advice panel, the school will continue to improve successful career development for staff. Regular staff surveys will **demonstrate continued improvement** of the work environment and staff wellbeing. Achievement of an Athena Swan Silver Award will be the external accreditation.

11. **Diversification** (of income). We will increase diversification of income through education (PGT and short courses), Research (overhead recovery) and entrepreneurship (medical devices), all described above. Additionally, the joint research office and local sponsoring will enable **clinical trials research**.

12. **Constraints, obstacles, and enablers.** Although we are effective at **Widening Access**, we recognise that attracting Scottish Index of Multiple Deprivation 2020 students is challenging. A new community medicine MBChB may be a significant method of overcoming this challenge by generating a programme that allows students to live 'mainly at home' and study locally. The Workforce Directorate of Health and Social Care Management Board of Scottish Government is the **key enabler**. When existing staff retire there is a review of their research profile to ensure that replacement academic posts are in aligned fields. Our plans will inevitably lead to expansion, which will be constrained, unless other sites are used.

### Indicators of Success

13. We will be known and respected internationally in niche areas. The following indicators of progress and success are listed against the University's Strategy headings:

a. **Interdisciplinary.** The school will continue to collaborate widely with other St Andrews schools, the International **Health Behaviour of School Aged Children Study** ([HBSC](#)), **Health Boards** in pursuit of excellent UG education, the **General Medical Council's** QA process, and **partner HEIs** for UG education, to expand a culture of interdisciplinary research with translational impact at grant, group, and Institute level. We will improve on the number of grants with co-investigators from other schools (against 2021 values). Success will be defined by achieving at least 50% of all research in collaboration with others.

b. **Diverse.** Our UG cohort is one of the most diverse in the UK. The School's primary diversity agenda is provision of a broad range of PGT and short course opportunities for health service staff; meeting their needs for life-long education in a flexible manner to suit their work pattern. The School has adopted the BMA racial harassment charter and will pursue Athena Swan Silver in the next year.

- c. **Global.** We will build on a strong base of global research (leadership of two interdisciplinary international consortium investigating the drivers of antibiotic resistance in E Africa ([HATUA](#) and [CARE](#))) and leadership of [iCAIRD](#) (a pan-Scotland collaboration of 15 partners from world-wide industry, NHS, and academia). We have staff seconded to the Scottish Government [Global Health Coordination Unit](#) to initiate the Active Global Citizenship strand of work to provide global citizenship educational resources for NHS Scotland employees. The Government Revenue and Development Estimations ([GRADE](#)) project study the relationship between government revenue and health determinants to advocate for a reduction in lost government revenues. The GRADE Malawi project studies the revenue requirement for every Malawian child to have access to their fundamental rights. Success in this area will be defined by an aspiration for at least 33% of all research to have global impact.
- d. **Entrepreneurial.** We have a track record of entrepreneurship; Orbital Diagnostics was spun out in 2018, the planned medical device centre will push frugal methodology as an alternative to traditional narratives on healthcare instruments. Success will be measured in Arclight's worldwide penetration. The Impact of our PGT Programmes in health service leadership and education will be measured in the number of Health Service staff enrolled as students.
- e. **Digital.** The Learning Technology Team will contribute to the University's digital ambition by producing world leading software to aid on-line, synchronous and asynchronous programmes.
- f. **Sustainability.** The on-line education platforms already in operation and in development will aid the reduction of travel-related carbon emissions. The school will embrace hybrid working.

## KPIs

### 14. Key metrics:

- a. **Grant income and overhead recovery targets.** The 2021 REF environment statement (baseline) shows grant income at RG median levels and we exceed the publication quality level in that 60.3% of annual publications are in the top 10% of cited journals and 33.7% are in the top 10% of cited papers. The '*award values / academic staff*' places Medicine above the Russell Group lab science mean. The target for 2026 will be grant income / FTE above relevant Russell Group comparators.
- b. **League tables.** In 2021 the 3 main UK league tables place this Medical School at 8<sup>th</sup>, 9<sup>th</sup> and 13<sup>th</sup> (average 10<sup>th</sup>). The target for 2026 is to continue to rise in the league tables. We aspire to maintain a position in the top third.
- c. **Target student FTE.** The 2021 values are 610 Government capped UG students, 45 PGR and 10 PGT. The school aspires growth of PGR by 20%, significant growth of PGT up to ~60 FTEs and a significant share of the new SG funded UG places on award of new programmes
- d. **Recruitment of staff FTE.** We will continue trajectory of growth of staff FTE through fully funded new endeavours at a rate of 10% per annum.
- e. **National student satisfaction.** St Andrews expectation is to remain in the top 3 for national student satisfaction.
- f. **Diversity awards.** Attain benchmark awards; Athena Swan Silver and any relevant future developments.