

**University of Wales College of Medicine
Coleg Meddygaeth Prifysgol Cymru
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Response to Lambert review of Business-University Collaboration

University of Wales College of Medicine (UWCM)

The University of Wales College of Medicine (UWCM) has a unique market place as the premier provider of broadly based healthcare education in Wales with research expertise recognised at national and international levels. At present the College's major customer is the NHS, as it seeks to improve the understanding of disease and develop new treatments, which will contribute significantly to the quality of life for the future and will have a major impact on the individual, the local community and the Welsh and UK economy. UWCM's close collaboration with the NHS and other HEIs enables it to assist the Welsh Assembly Government (WAG) in the development of policies that work towards the improvement of health and the delivery of high quality health care.

In pursuing its overall mission UWCM has identified one of its corporate aims as "To contribute to the health, social, cultural and economic well-being of Wales and by so doing to promote Wales within the UK and on the international scene¹." Currently, this mission is being met through the following strategic objectives:

- To promote UWCM to a global audience through the development of its strategic and international links in commercial and academic research and health-service delivery.
- To promote those activities consistent with the UWCM strategy which will help the Welsh Assembly Government to address particular problems in Wales and to contribute to policy development, in particular, in relation to NHS Wales.
- To maximise the potential of high profile collaborative and partnership working with NHS Wales, the commercial and academic sector to the benefit of improving health and healthcare delivery across Wales.
- To strengthen and develop the economic viability in Wales through improvements in health and healthcare delivery to maximise the potential of the working population.
- To provide a range of research (including contract research), consultancy, learning opportunities and skilled graduates to public sector bodies and business in Wales that both support indigenous activity and enhance inward investment opportunities offered in the region.

UWCM meets these objectives and also takes into account the current discussions with Cardiff University concerning the planned merger of the two institutions. These discussions, under the title, "The Alliance Project" has identified both the existing synergies between the two institutions and the potential for even greater benefits to accrue. Nowhere is this better illustrated than in third mission activities where joint successes such as the Cardiff Partnership Fund (a successful University Challenge Seed Fund bid) and the Wales Gene Park clearly show what can be achieved through partnership. The existence of successful collaboration in the Cardiff Institute of Tissue Engineering and Repair (CITER), diabetes research and the development of a Centre of Forensic Expertise is further evidence of third mission synergy. The

¹ UWCM Strategic Plan 2002/3-2006/7

potential effect of merger on research generally in the biomedical sciences is particularly exciting.

In addition UWCM is involved in other commercial initiatives such as the Wales Spinout Programme (WSP), Western Arc Bioscience Exploitation Platform (WABP), Knowledge Exploitation Fund (KEF) and the Medi-Wales Forum facilitating UWCM's interaction with the industrial sector.

Two departments have been successful in achieving Centre of Excellence for Technology & Industrial Collaboration (CETIC) status as awarded by the Welsh Development Agency. These are the Wound Healing Research Unit, totally funded through commercial income, and the Institute of Medical Genetics the lead in the successful collaborative bid to establish the Wales Gene Park.

Questions for Consultation

Types of Collaboration

Question 1

Identifying best practice and examples of excellence in business-university collaboration in the UK

1.1 Industry's use of the information contained in academic publications, and academia's use of industry patents and prototypes or vice-versa

Detail of UWCM's involvement in research and commercial activity can be found on the website at www.uwcm.ac.uk link Research. Research/Researchers are featured in the UWCM and the WDA Directories of Expertise and in articles in the publication Advances Wales. A Publications Record is available on request and will shortly be found on the website. There are established links with major pharma such as Smith & Nephew and Glaxo which already support major research programmes.

1.2 Joint ventures between university and business

UWCM set up its Commercial Strategy Committee in 1999, with the remit to monitor and develop policies and procedures to oversee 'third mission' activity within the university. UWCM's unique involvement with health and healthcare delivery places it in an enviable position to provide the biomedical commercial sector with access to academic clinical expertise, technologies and resources. Its symbiotic relationship with the Cardiff & Vale NHS Trust and the move towards joint IPR strategies places it in a strong position in the market for contract research. UWCM's relationship with NHS Wales allows access to patients from all areas of healthcare delivery including primary, acute, long-stay and mental health which represents an invaluable resource to the biomedical commercial sector.

The Cardiff Medicentre is a unique facility adjacent to UWCM which currently has a 22.25% interest and access to a rent-free incubator unit available to fledgling spinout companies.

Joint spinouts include ESEFEX a joint venture between UWCM and a Newport based company – Principality Medical and Biostatus a joint venture between Biostatus and UWCM.

In 2002/03 it is proposed to target the SME biomedical companies in Wales, nationally and internationally with a view to undertake contract R&D in partnership with the College.

1.3 Informal Contacts – see list

The Director of the Research & Commercial Office is also the Industrial Liaison Officer and is an active member of the Wales Industrial Liaison Officers Group. The development of an entrepreneurship culture in an institution such as UWCM will require both commitment on behalf of staff and students and time to enable it to become part of the institutional fabric. Over the years UWCM has been extremely successful in commercialising its research but in an institution dedicated to academic excellence healthcare it has been important to ensure that commercial activity has not been seen to compromise professionalism of its values which underpin the caring ethos.

The profile of entrepreneurship within UWCM is increasing as the infrastructure is strengthened through the support of the Knowledge Exploitation Fund (KEF). The appointment of an Entrepreneurship Adviser in June 2002, supported by an Entrepreneurship Officer, appointed in December 2001, has meant that UWCM is now much better placed to develop its entrepreneurship programmes. The Entrepreneurship Adviser has extensive knowledge of the academic (being a former senior lecturer at UWCM) and business sectors and is currently assessing the opportunities for knowledge exploitation through commercial awareness raising and teaching.

The KEF project at UWCM is in its early stages but already some important steps have been taken to promote entrepreneurship and enterprise to staff and students. Enterprise resources have been made readily available through the Sir Herbert Duthie library in the aptly named 'Enterprise Zone' at UWCM, and will be made available to all UWCM members of staff and students. An on-line information service is currently in the development phase which will provide signposts to facilitate the commercialisation of new business ideas.

Various awareness-raising events have been successful in promoting KEF and entrepreneurship. This has resulted in a substantial increase of approaches from staff having potentially innovative projects to the College's Research and Commercial Office.

Clinical placement activity is a central feature of all of the College's undergraduate provision. The transition into practice can only be achieved by placing clinical practice at the centre of the student's learning experience. Such clinical experience underpinned and reinforced by more generic employability skills (IT skills, communication skills, interpersonal skills) provided within the College ensure the smooth transition of UWCM's students to the next stage of their professional lives. Placement activity is managed by the relevant Dean although the College is proposing to develop a placement database as a by-product of its inter-professional education.

1.4 Formal Contracts, use of licensing, research contracts, consulting projects, establishment of spinout companies, product testing, or business support

The College's Research and Commercial Office plays an active role in maximising the potential of IPR within UWCM. Technology transfer is managed

by dedicated staff within the Research and Commercial Office, who liaise closely with the academic community. Researchers are encouraged to highlight potential IPR and follow an established procedure which results in the protection of appropriate IPR by patenting, copyright or trademark. UWCM's procedure for managing all IPR was highlighted in the recent Commercial Awareness Training Programme, which was well attended by College staff.

UWCM's licensing strategy is to negotiate exclusive or non-exclusive agreements on a royalty basis with an up front payment to recover patent costs. There is in-built flexibility should this approach be not entirely appropriate.

Economic Development has been enhanced by the Colleges involvement in various funding initiatives. UWCM's research is supported by numerous funding bodies including the European Commission (EC), Research Councils and the Wellcome Trust. The EC projects in which the College is involved have a strong orientation towards wealth and health creation. The recently launched Basic Research Technology Programme (BRTP) as well as LINK programmes (led by the Research Councils) have provided UWCM with a unique opportunity to capitalise on its research expertise whilst working in parallel with commercial partners. It is hoped that these programmes will set precedents for future funding initiatives. At present UWCM is negotiating with the Wellcome Trust's commercial arm (Catalyst Biomedica) for £0.25m to support the commercialisation of a research project.

UWCM spinout companies include Molecular Light Technology, Cell Engineering, Art of Xen, MRBP Research Limited, Medelect Limited, Cardiff Research Consortium/CRC Health Outcomes Group and Biostatist.

The UWCM Research and Commercial Office acts as the central enquiry point for businesses. All enquiries are assessed and forwarded to the relevant UWCM personnel. Marketing information will be developed and will indicate to potential customers that all enquiries should be channelled through the Research and Commercial Office Help Desk at rcohelpdesk@cardiff.ac.uk

Summary

UWCM has a close relationship with the Welsh Development Agency (WDA) and is an active participant in economic strategic and funding initiatives including Finance Wales, the Wales Innovation RELAY Centre, and MediWales. The Wales Gene Park has brought together partners including several universities in Wales, the NHS Medical genetics service for Wales, Techniquest (Cardiff's public centre for science discovery), the Knowledge Exploitation Fund and the WDA with the common aim of creating a centre of national and international excellence.

UWCM recognises the increasing importance of third mission activity as a potential funding stream and as such, has established a strategy to ensure an integrated and professionally managed approach to the evaluation, protection and the commercial exploitation of its research activity which relates directly to UWCM's mission and strategic plan.

The Commercial Strategy Committee monitors the external environment and advises UWCM's Management Board on strategic implications of third mission activity. The role of the Commercial Strategy Committee is to provide advice, on a College-wide level, to those looking to develop links with industry and commerce. The Committee oversees Training & Consultancy Services (TACS)

as well as the exploitation of research. In view of the College's particular mission and expertise, one of the primary interfaces identified to date is with larger (pharmaceutical) companies and with local Small Medium-Sized Enterprises (SMEs) this does not preclude the identification of new business opportunities in other areas to benefit the economy of Wales.

The Wales Spin out Programme offers a comprehensive package for academic researchers who wish to exploit novel technology by setting up a business. UWCM is part of the Cardiff cluster with Cardiff University and shares a Spinout Manager. UWCM is a member of the Western Arc Bioscience Platform (WABP) and has access to 20% of time of a WABP Technology Transfer Officer.

Research and innovation support in the College was given a major boost in 2001. The Vice-Chancellor demonstrated his commitment to supporting and increasing such activity in UWCM by appointing a Pro Vice-Chancellor (Research) (PVCR). The PVCR has been allocated a 'strategic fund' from which funding has been earmarked to support new innovative and emerging themes for pump priming projects and to strengthen existing research and commercial activities.

Unlike other HEIs, UWCM has a focused symbiotic relationship with the largest healthcare trust in Wales, the Cardiff & Vale NHS Trust. The Trust is working closely with UWCM to develop a joint Intellectual Property Rights policy and a joint approach to the development of applied research in line with the requirements of the Research Governance Framework for Health and Social Care in Wales. The Commercial Strategy Committee is promoting the interaction of UWCM with the NHS. The Chair and Secretary of the Committee have visited lead NHS R&D clinicians across Wales with a view to providing support for innovation. The visits have been received positively to date, and a number of new initiatives may develop. This has resulted in the part-time secondment of the Secretary of the Commercial Strategy Committee to the Welsh Assembly Government to develop the policy guidelines for the exploitation of NHS Wales Intellectual Property (IP) and the establishment of an All-Wales NHS IP Advisory Service.

Question 2

What are the main barriers to developing or strengthening such relationships?

2.1 Management and Organisational issues

How can businesses and universities best organise themselves in order to benefit from each others resources, do the present mechanisms help or hinder bus/university collaboration, what changes might encourage collaboration

The University of Wales College of Medicine like many universities had, until recent years, a rather ambivalent attitude towards third mission activities. The creation of the Commercial Strategy Committee in 1999 and the development of a mission statement that states such activity will be actively supported and encouraged whilst protecting the institutions other priorities in basic research and education indicates a seed change in both its philosophy and approach.

Many academics, it was believed, were engaged in such activity and a commercial activity audit completed in 2001 has confirmed this with 80% of academic staff either currently engaged or prepared to engage in such activity. Further development of activity in this area is being encouraged by commercial

awareness training and by the appointment of an entrepreneurial advisor to instil such a culture in staff and students of the university.

Professional advice and administrative support and expertise was difficult to obtain initially but the inclusion of individuals with a commercial background on the Commercial Strategy Committee and the recent expansion of staff in the Research and Commercial Office have helped significantly. Continuing review of the support required by the Finance and Personnel Departments to support third mission activities required to ensure the institution can operate with a degree of professionalism and timeliness usually required in dealing with commercial concerns.

It is recognised that the UWCM has a unique potential for close interaction with the National Health Service and opportunities for supporting NHS colleagues in developing third mission activities on an all Wales basis are enormous. This is currently being achieved through the part-time secondment of the Commercial Development Manager to the Welsh Assembly government with a remit to developing policies for the exploitation of NHS Wales Intellectual Property (IP) and the development of an NHS IP Advisory Service. The proposed merger with Cardiff University will provide access to a wide range of new expertise and technology which is likely to have a major impact on UWCM's third mission activities and strengthen the developments in health and healthcare delivery.

It is anticipated in the future that third mission activity will have the greatest potential for growth in the institution and increasing income from such services of at least 10% a year over the next 5 – 10 years is both desirable and achievable. Further administrative and professional support is required to ensure that the appropriate management of intellectual property, patent portfolio identifying opportunities for collaboration and funding opportunities.

2.2 Technology Transfer – what are the barriers? How can it be more effective?

A Patent Panel has been set up chaired by the Chair of the Commercial Strategy Committee and includes the Director of the Research & Commercial Office, the Entrepreneurship Adviser and Technology Transfer Officers as members. The Panel review both existing and potential patents making the best cost-effective use of both the patent budget and commercial opportunities.

Funding remains a limiting factor. UWCM maximises its use of funding initiatives such as the Cardiff Partnership Fund, the Knowledge Exploitation Fund and the Wales Spinout Programme. However, there remains a funding gap in particular in proof of concept. Access to funding is often limited by inflexible criteria attached to development initiatives.

UWCM needs to consolidate its exiting industrial links at both national and international level and increase its involvement in the showcase of technology to companies.

2.3 Intellectual Property – are the present arrangements understood and appropriate

Full detail of the value and arrangements for the protection and exploitation of Intellectual Property are on the UWCM website and included in the induction

programme. Detail includes the revenue sharing arrangement which is currently 50% to the inventor, 30% to the department and 20% to the central budget, patent costs are recovered prior to the distribution of royalties.

The Research & Commercial Office is the point of contact for IP and inform staff of the importance of the protection of IP. A commercial activity audit completed in 2001 indicated approximately 80% of academic staff were currently engaged or prepared to be engaged in this activity. Further development of activity in this area is being encouraged through an active Commercial Awareness Training Programme and through the appointment of the Entrepreneurship Adviser.

Question 3

How business can attract the best graduates and postgraduates with the skills that they require?

Academic and practitioner standards are inextricably linked in all of the healthcare professions because the academic award, at undergraduate or pre-registration level, also confers an entry to professional practice. Indeed one of the aims of the College is:

“To produce high quality graduates who are capable of meeting the present needs of the health service and of shaping its future.”

(UWCM Learning and Teaching Strategy 2002)

The various Schools within UWCM work in partnership with the Welsh Assembly Government, partner Trusts and other healthcare providers, to achieve this aim. In this, partner Trusts are both providers of clinical placement opportunities and potential employers of our graduates and their views on the ‘fitness to practice’ of our students are a key element of curriculum development. Their views are principally obtained through reports by clinical staff and others directly involved in the delivery of teaching.

Question 4

The review team want to understand whether financial considerations currently help or hinder the relationships between business and universities

4.1 Ways the present financing arrangements could be made more effective?

Traditionally finance within universities is designed to primarily manage funding linked to teaching or research and does not make it easy to work harmoniously with industry. In order to capitalise on third mission activity there needs to be an awareness of working with and an understanding business sector finance and expectations to develop an informed relationship between universities and industry.

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