

## The International Virtual Medical School (IVIMEDS)\*

**Medical schools are facing a number of Challenges in medical education. IVIMEDS can contribute to their solution.**

### Challenges facing medical schools

The last three decades have seen remarkable changes in the medical education associated with changes in healthcare delivery, advances in medicine and in medical and learning technologies. There is every indication that the pace of change over the next several decades will not slow down.

These changes confront medical schools with major new challenges. Schools will have to respond actively to address these.

Important changes facing medical education include:

#### TRANSFORMING HOW STUDENTS LEARN

Changes in technology and pedagogy have significantly impacted medical education. The presence of the internet has had a profound impact on teaching and learning in most medical schools, leading to changes in instructional practice. The culture of teaching and learning however has generally remained relatively unchanged.

Technology now offers solutions to educational challenges not previously possible. The potential of the new technology to enhance both campus-based and distance learning is far from fully exploited. The challenge is to embrace this potential cost-effectively.

#### SHARING EXPERTISE AND RESOURCES

All medical schools have areas of strength in content delivery, instructional design, assessment methodologies and technology expertise. Equally most have areas of relative weakness. It makes sense for schools to collaborate by sharing their areas of strength while at the same time addressing areas of relative weakness. The challenge is to find ways to collaborate that achieve this effectively and efficiently.

#### DELIVERING A HIGH QUALITY AND FINANCIALLY SUSTAINABLE PROGRAM

Many medical schools are facing increased financial pressure. Many are reviewing current teaching and learning practices. Most are addressing how to exploit the potential of the new technologies cost-effectively. Most are seeking new revenue sources. The challenge is to respond to the changing demands on medical education, to achieve the highest quality, and to adopt new approaches within the financial resources available.

#### INCREASING ACCESS TO MEDICAL EDUCATION

In many countries, both developed and developing, the need to train more doctors has been recognized.

Almost universally the need has been recognized to widen access to medical education to individuals from more diverse academic, professional, social, and cultural backgrounds.

In many countries, both developed and developing, there is a need to train doctors from outlying or rural areas within their own communities to overcome the "tyranny of distance".

The concept of multi-professional education in health professions' school is in its infancy. A challenge for medical schools is to explore how this can be developed through appropriately shared learning experiences.

#### WORKING IN PARTNERSHIP WITH CONTINUING EDUCATION

The need for doctors who are lifelong learners is universally accepted. The challenge for medical schools is how they can best equip doctors for this and how they can contribute to its delivery.

Medical schools have a role in the development of the continuum of medical education from undergraduate, through postgraduate to continuing medical education.

## PROVIDING LEADERSHIP IN MEDICAL EDUCATION

Medical schools have an important leadership role to play in steering and directing changes in medical education relating to curriculum delivery, educational strategies, instructional design, teaching and learning methods, assessment, globalization and international standard setting.

## The IVIMEDS collaboration

### THE AIMS OF IVIMEDS

The International Virtual Medical School (IVIMEDS) is a unique collaboration among leading edge medical schools and institutions world-wide committed to achieving maximum benefit from new educational technologies.

IVIMEDS, working where appropriate with other professions, aims to play a part in improving health and tackling human disease worldwide by providing a blend of e-learning and high quality face-to-face learning for medical professionals.

### DEVELOPING THE CONCEPT

Over the past year, a study of the IVIMEDS concept has been undertaken, funded by the Scottish Higher Education Funding Council, Scottish Enterprise, Scottish knowledge and NHS Education for Scotland. Discussions were held with 52 collaborating medical schools and institutions from 16 countries. One hundred and eight representatives met in St. Andrews from the 12<sup>th</sup> - 14<sup>th</sup> June 2002, to review the proposal.

The June meeting was the culmination of Stage 1 of a three-stage development of IVIMEDS. Stage 2 is a full feasibility study and proof of concept for IVIMEDS that will take a year to complete. Stage 3 would be the full implementation of the business plan developed during Stage 2.

The IVIMEDS concept was endorsed at the June meeting and it was concluded that medical schools and institutions should be invited to participate in Stage 2 of the development.

### FEATURES OF IVIMEDS

IVIMEDS will include:

- A bank of shareable learning resource materials in the form of reusable learning objects (RLOs). RLOs are small discrete chunks of learning that are metatagged (indexed) and stored in a database. Interna-

tional standards for metatagging will be used to insure maximum interoperability. The RLOs may be pieces of text, short video clips, annotated diagrams, simulated problems or questions. They can be used in a wide range of learning situations in different instructional contexts.

- Curriculum maps that assist students and instructors to exchange information about what is being taught and when it is taught. They help to ensure that the curriculum reflects the overall goals of the individual partner schools.
- Student study guides in the form of personal learning plans that will help the student follow their optimal path through the curriculum. The study guides may vary depending on a student's background, prior experience, learning style and plan for completing the curriculum
- Appropriate face-to-face learning experiences blended with the e-learning opportunities and provided in a partner school, in the community or elsewhere.
- Student support provided through face-to-face and/or online faculty mentors, student study guides and peer-to-peer collaborative learning experiences using software developed for the purpose.
- State of art assessment methods that serve both a formative and summative role in the evaluation of students. Assessments will reflect the learning outcomes agreed by partner schools and will be developed in collaboration with partner schools and with national testing bodies.
- Development and maintenance of quality. The IVIMEDS program will be structured to take full account of international academic and technology standards. It will embrace appropriate quality assurance measures and best evidence medical education.

### DEVELOPMENT OF IVIMEDS

IVIMEDS will have a clear development trajectory by:

- Providing, at an early stage, a shared bank of resources including RLOs, curriculum maps, student study guides, assessment methods, and an effective user management system.
- Enable students in collaborating schools to use elements of the IVIMEDS curriculum in the first 2-3 years of their medical

course. IVIMEDS students successfully completing their studies will be acceptable in principle for entry to the later years of the school's program.

- Providing a comprehensive IVIMEDS blended curriculum, embracing a range of pedagogic methodologies, covering the whole of the undergraduate medical education course.
- Extending the concept of IVIMEDS to postgraduate and continuing education, and education and training in other health professions. IVIMEDS will develop steadily but purposefully to an agreed timetable with clear targets and milestones, guided by the participating medical schools.

Stage 2 is a full feasibility study and proof of concept, running from September 2002 until September, 2003. The following activities will be undertaken:

- Development of an agreed academic strategy
- Conduct of a detailed market analysis
- Preparation of a fully costed (financially accountable) business plan
- Submission of clear long term funding proposals
- Development of the resource bank including pilot studies undertaken to further proof of concept for the IVIMEDS instructional approach.
- Identification of a recommended user management system
- Development of institutional guidelines on staff development and training.

Stage 3 would be the full development and implementation stage during which the business plan would be implemented. Current thinking, to be reviewed in stage 2, is that Stage 3 will be completed and IVIMEDS operational by September 2004. The Steering Council formed to oversee Stage 2 work will determine the precise Stage 3 activities.

#### **OPERATION OF IVIMEDS**

IVIMEDS will be incorporated as a not-for-profit partnership company. Income will be

generated by participating medical schools form several revenue streams. These will include the sale by IVIMEDS to third parties of learning and curriculum resources, sales to health systems and third party medical education institutions of structured learning programs relevant for undergraduate, postgraduate and continuing medical education, and incremental medical student fees.

An IVIMEDS Foundation will be established to support the education, training, and development of health professional in developing countries.

IVIMEDS will be governed, during Stage 2, by a Steering Council whose membership will consist of representatives of the schools that elect to participate in Stage 2. The Steering Council will be responsible for developing and approving the academic strategy and business plans for IVIMEDS.

An Executive Team will be appointed to undertake Stage 2. It is proposed that it consist of a Project Director, and Business Development Director. They will be responsible for implementing Stage 2 terms of reference (to be agreed in detail by the Steering Council) and establishing the "proof of concept" through pilot studies and field testing.

Project groups of experts in the areas of assessment, student support systems, resource bank and user management systems, and staff training and development will be established drawing on the expertise in participating schools.

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