THE FUTURE OF MEDICAL SCHOOLS IN OUR CHANGING WORLD

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FEWER BOUNDARIES

- The language barrier.....
FEWER BOUNDARIES

- Student mobility – does not happen spontaneously

MEDINE2, Work-package 2
Medical students across Europe

Move to improve!

If you want to:
✓ gain international experience
✓ discover new cultures, new languages, new friends
✓ learn to deal with medical practice in other European countries

Study abroad through the European Credit Transfer System (ECTS)

Contact your medical school or learn more at www.medine2.com

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Medical students across Europe

Move to improve!

Wenn Sie Lust haben:
✓ internationale Erfahrung zu gewinnen
✓ neue Kulturen, Sprachen, Freunde zu entdecken
✓ sich mit der medizinischen Praxis anderer europäischer Länder vertraut zu machen

Studieren Sie im Ausland mit dem European Credit Transfer System (ECTS)

Mehr Information bei Ihrer medizinischen Fakultät oder unter www.medine2.com
SHARING BEST PRACTICE

• AMEE, Ottawa Conference, academic networks, national associations, journals, blogs, etc..

• Medical education as a career
To identify the current positions, aspirations and actions of European medical schools relating to trends in medical education
Respondents asked:

- Current position on the trends in their institution
- Vision as to the desirable developments in medical schools over next 3-5 years
The Top 10 future trends/developments

- Curriculum committees: 1.89
- Learning outcomes defined: 1.87
- Outcome based: 1.86
- Professionalism & attitudes: 1.87
- Communication skills: 1.87
- Critical thinking: 1.85
- Evaluation of evidence: 1.81
- Independent learning: 1.83
- Small group work: 1.83
- Curriculum evaluation: 1.84
The Top 10 changes

Harmonising in Europe +0.77
Medical errors +0.75
Use of virtual patients +0.75
Individualised learning +0.68
Use of Portfolios in assessment +0.67
Teaching as basis for promotion +0.74
Professionalism of teaching +0.69
Trained teachers +0.69
Assessment of education environment +0.77
CONSENSUS-BASED, OUTCOME-DRIVEN CURRICULA

Uses of Competency-based Education

1. Guiding learning for a student or resident
2. Giving daily feedback to residents and students at the bedside and in clinic
3. Making pass/fail decisions at the end of a rotation and the end of a program
4. Making pass/fail decisions for licensure and Certification

• Outcome- or competency-based education is a vehicle which promotes and legitimises mobility
The Tuning (medicine) project
Establishing a Europe-wide consensus on core learning outcomes for medical degrees

www.tuning-medicine.com
The Tuning Learning Outcomes/competences for Primary Medical Degrees in Europe

LEVEL 1

Graduates in medicine will have the ability to:

- carry out a consultation with a patient
- assess clinical presentations, order investigations, make differential diagnoses, and negotiate a management plan
- provide immediate care of medical emergencies, including First Aid and resuscitation
- prescribe drugs
- carry out practical procedures
- communicate effectively in a medical context
- apply ethical and legal principles in medical practice
- assess psychological and social aspects of a patient’s illness
- apply the principles, skills and knowledge of evidence-based medicine
- use information and information technology effectively in a medical context
- apply scientific principles, method and knowledge to medical practice and research
- promote health, engage with population health issues and work effectively in a health care system
LEARNING OUTCOMES/COMPETENCES FOR UNDERGRADUATE MEDICAL EDUCATION IN EUROPE

THE TUNING PROJECT (MEDICINE)

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On behalf of the Tuning Project (Medicine) Steering Group and Task Force 1 of the MEDINE Thematic Network

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Carry out a consultation with a patient
Diagnose and manage clinical presentations
Communicate effectively in a medical context
Provide immediate care of medical emergencies
Prescribe drugs safely, effectively and economically
Carry out practical procedures safely and effectively
Use information effectively

The doctor as a practitioner

USE OF “CONSENSUS” OUTCOMES AT NATIONAL LEVEL
The ALFA Tuning Latin America Project seeks to ‘fine tune’ the educational structures that exist in Latin America, initiating a debate whose aim is to identify and improve co-operation between higher education institutions, so as to develop excellence, effectiveness, and transparency. It is an independent project, promoted and co-ordinated by universities in many different countries, both Latin American and European.
GLOBAL ENGAGEMENT

• Partnerships and consortia
• Research, teaching and training, clinical medicine
• Challenge of diverse contexts......
GOVERNANCE AND ACCREDITATION

- Increased public and legal scrutiny of medical school education and training
- Accountability for patient safety

PATIENT SAFETY

- Use of simulation, role play
- “student assistants”
- Assessment of competence at graduation
- De-coupling of degrees from licensure
The “Clinical Skills” agenda
IMPORTANCE OF ASSESSMENT

• The knowledge is “out there”
• “teaching” is passé
• Tell the students what they have to learn then make sure they have done it....
• + Design a student experience which inspires and motivates them
Good assessment:

- Valid
- Reliable
- Fair
- Practical
62% - pass

58% - fail
Generalisability Theory

\[ R = \frac{\sigma^2 \text{ subjects}}{\sigma^2 \text{ subjects} + \sigma^2 \text{ examiners} + \sigma^2 \text{ error}} \]
Old model – loose alliance of biomedical scientists, clinical academics, and clinicians

New model – teachers in Medical Schools, researchers in Institutes

Professionalisation of medical teaching and training

But – give students opportunities to experience medical research and gain relevant skills
ROLE OF INFORMATION TECHNOLOGY

- IVMEDS - R.I.P.
- IT integrated into medical education and training at all levels
- Move to shared platforms (aid to mobility)
Welcome to EEMeC, the Edinburgh Electronic Medical Curriculum.

EEMeC is an online intuitive learning environment which supports the undergraduate MBChB programme here at the University of Edinburgh.

For the student, it allows securely protected access to searchable information relating to the curriculum; for the clinical teacher, it enables information and resources to be placed in dedicated spaces to assist the student's progress through the programme.

Visitors to the site are warmly welcomed.

EEMeC is currently in the process of a transformation, and although most areas of the site are live, parts may be subject to change. To read more about the changes happening in EEMeC visit the New EEMeC Information pages.
Other Challenges

i. Ethics of medical education – e.g. plagiarism, collusion

ii. “Fitness to Practise”

iii. Demography of the medical profession, widening access

iv. Remote and rural practice

v. Accelerated medical courses, graduate entry

vi. Changes in postgraduate training

vii. Complementary and Alternative Medicine

viii. Changes in health service delivery e.g. multi-disciplinary working
The earth is a dynamic platform and restlessness is part of its nature. Slow or fast, change is inevitable. Nothing is certain except change.

National History Museum, London
## Obstacles to change

### Highly rated

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Rating</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>16h</td>
<td>There are conflicting interests for the teacher between research and/or clinical care.</td>
<td>2.5</td>
<td>50.8%</td>
</tr>
<tr>
<td>16g</td>
<td>The teacher's work in the field is not incentivised, valued or rewarded.</td>
<td>2.5</td>
<td>50.0%</td>
</tr>
<tr>
<td>14e</td>
<td>Teachers do not have sufficient experience and are not trained to implement the new approach.</td>
<td>2.4</td>
<td>46.1%</td>
</tr>
<tr>
<td>15d</td>
<td>Implementing the change will increase the staff workload.</td>
<td>2.4</td>
<td>48.9%</td>
</tr>
<tr>
<td>13b</td>
<td>A conservatism, rigidity and reluctance to change.</td>
<td>2.3</td>
<td>46.5%</td>
</tr>
</tbody>
</table>
SO! - THE MEDICAL SCHOOLS OF THE FUTURE...

- Fewer boundaries
- Sharing best practice
- Globally engaged
- Consensus-based, outcome-driven curricula
- Accountable, with appropriate governance and accreditation processes

- Patient safety a major concern
- Assessment a key issue
- Professional teachers/assessors
- Evolved use of Information Technology
- Reactive to change
What do medical students think?

"As you know, Europe is composed of many countries, each with different qualities of education. There is no single blanket medical system in Europe. There's simply a huge range out there and it's hard to try to compare. The focus is generally answering the problems at home and directed towards their own cultures."

http://forums.studentdoctor.net/, 26/12/2010
“Imagine a future where one could train in the medical school of Europe and subsequently be employed by the European Health Service. Surely this is the stuff of fiction? Well, probably, but at the recent conference inroads were made to understand how medical education differs throughout Europe, with the aim of shaping a future where the medical community is able to work in a Europe without borders.”

Sarah Dolling and Charlotte Mackay

# Lengths of Medical Education across Europe

<table>
<thead>
<tr>
<th>Country</th>
<th>Basic Medical Education (years)</th>
<th>Internship (years)</th>
<th>Specialist Training in Surgery (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>6</td>
<td>1</td>
<td>5.5</td>
</tr>
<tr>
<td>Finland</td>
<td>6</td>
<td>(incl. 6 months internship)</td>
<td>6</td>
</tr>
<tr>
<td>France</td>
<td>6</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Germany</td>
<td>6</td>
<td>(incl. 1 year &quot;praktisches Jahr&quot;)</td>
<td>6</td>
</tr>
<tr>
<td>Holland</td>
<td>6</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>Sweden</td>
<td>5.5</td>
<td>1.5</td>
<td>5</td>
</tr>
<tr>
<td>UK</td>
<td>5</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>
Measures that may improve reliability of assessment

- Double, triple or more -marking of assessments
- Increased number of assessments
- Increased duration of assessments
- Reduced number of markers
- Simplified marking scheme with fewer grades
- Standard-setting e.g. modified Angoff
- Standards explicit to markers and students
- Staff development meetings of assessors to discuss standards
- Etc ……..
Andreas Vesalius

- Born Brussels 1514
- Studied in Leuven, Paris, Padua
- Taught in Padua, Pisa, Bologna, Basel
- Travelled Europe as Imperial Physician to Charles V - heir to the German Hapsburgs, House of Burgundy, and King of Spain
- Died in Greece age 49

De Humani Corporis Fabrica (Fabric of the Human Body) Vesalius, 1543
State-funded vs Private?

- Is medical education a form of inherited wealth?
- All schools accept fee-paying students
- Will new private schools be centres of innovation? – or cut-price mimics?
The Student Experience

- From application/selection to graduation and beyond
- Student satisfaction surveys, league tables
- Personal tutoring
- Communities of learning
- Pastoral care
Undergraduate medical education - different governance models

- State regulation and control (e.g. Germany)
- State-sanctioned regulation by the medical profession (e.g. United Kingdom)
- Control by Universities, including post-graduate training (e.g. France)
- Independent medical schools + national licensing examination (e.g. USA)
MEDINE 2 WORKPACKAGES

1. MEDINElingua – medical language learning (Berlin)

2. Toolkit to promote openness and mobility in medical education and training in Europe (Brussels/ECTS MA)

3. Tuning Process for medical education (Edinburgh)

4. Tuning 1st cycle degrees in medicine (Edinburgh)

5. Curriculum trends in medical education in Europe in the 21st century (AMEE)

6. Integration of the Bologna Process within medical schools in Bologna countries (AMEE)

7. Integration of the research component in European medical education and Tuning 3rd Cycle degrees in medicine (Brussels)
Aim - “become a good doctor”

Competences – can communicate effectively, manage illness, etc

Graduating outcomes

The Programme

Learning outcomes
Learning outcomes
Learning outcomes
Learning outcomes

Graduate

Medical school

Aim - “produce a good doctor”

Student

Aim - “become a good doctor”