Association of British Clinical Diabetologists
Harrogate, 10 – 11 April 2008

The Future of Medical Education

John Tooke

Overview

- Things don't stand still: what endures? What is likely to change?
- What has MMC revealed about medicine's preparedness for the future?
- What happens next?

"An outrage of the most revolting kind committed in St David's Churchyard by disinterment of the body of Elizabeth Taylor, aged 67, buried the preceding afternoon"

Trewman's Exeter Flying Post: 16 November 1828

"The (Plymouth Medical) Society met at Dr Yonge's, and it was proposed to assist Mr Cooke of Exeter, by a contribution from the Society's funds to pay the expenses of a prosecution instituted against him for disinterring a body from a church yard; but the Members being of opinion that great negligence was shown in refilling the grave, which led to the discovery of the fact, determined not to subscribe"

Minutes 10 August 1827

The Times Monday 30 September 2002

Medical school consigns dead bodies to history

By Simon de Bruxelles

SENIOR surgeons condemned yesterday a decision by Britain's newest medical school to break with 2,300 years of tradition and abandon the teaching of anatomy using real human cadavers.

Students at the Peninsula Medical School, which opens its doors today, will be the first to be taught anatomy using computer-imaging and models instead of dead bodies.

For centuries the dissection of a corpse has been an essential learning aid for trainee doctors as well as a rite of passage. However, students at the school, which is based in Exeter and Plymouth, will not dissect a single cadaver during their five-year course. Instead, they will meet and help to treat real patients from their first week.

Traditional medical degrees consist of two years' academic work, including dissection, before students meet a real patient. The change has been attacked by some distinguished surgeons who claim that it is important for medical students to become accustomed to the concept and smells of death and that the dissection of a real specimen is the only way to gain a three-dimensional perspective of the human body.

The Peninsula Medical School has been set up at a cost of £45 million as part of the Government's drive to train more doctors. The first 127 students will be greeted by a video message from the Prime Minister when they arrive this morning. The school will expand to take 167 students next year and eventually will have 800 on its roll.

The school is not only using computers to replace corpses in the teaching of anatomy, it has also created wards full of dummy patients. The wards at Heavitree Hospital, Exeter, and Plymouth University look like any other in the NHS, but the patients are all anatomically accurate models. The £25,000 models are so complex that they do everything from grumble about the pain to vomiting blood.

Elly Sample, the medical school spokesman, said: "The whole idea is that our students will no longer be slicing up bodies. In the past, students have spent a lot of time working on cadavers, but they are not really like live bodies because everything is grey and lifeless.

"The best way to teach human beings about other human beings is to interact as early as possible, and it is not useful to interact with a dead person. With models and interactive multimedia techniques, we can teach about the inside of the human body much more effectively.

"We have a simulated ward with exactly the sort of facilities the students will find in a real hospital when they start work. The idea is that they can learn how to actually manage the ward environment.

"They will also encounter models of patients with conditions which they might not otherwise have found until they are well into their careers.

"There are different types of dummies, including resuscitation dummies already used to train paramedics and genito-urinary dummies for teaching how to conduct intimate examinations. Most of the parts are interchangeable, so the same dummy can be both male or female. It could have a broken leg one day and an injectable arm the next.

"The most expensive costs about £25,000 and is known as Harvey. The only thing they all have in common is that they have awful toupees."

Vishy Mahadevan, Barbers' Company Reader of Anatomy at the Royal College of Surgeons, said that the college had not been consulted about the decision to stop using dissection.

"Students do not only learn anatomy from dealing with cadavers," he said. "It is quite an indescribable thing to be exposed to a dead body for the first time.

"It has an impact. You learn to respect the body and you learn to cope with all the smells and unpleasantness which are a part of medicine. There is no place for squeamishness in medical teaching."

Andrew Raftery, a Royal College council member and consultant surgeon at Sheffield's Northern General Hospital, said: "Training is being dumbed down. It is better to learn on a cadaver than on a patient. I would like to see a standard examination so we knew that every doctor is being trained to the same standard. This would bring peace of mind to patients."

However, Dr John McLachlan, the Peninsula school's director of Phase One, defended the decision. "Medical practitioners will see patients as living individuals and also through imaging technology," he said. "We hope, for the most part, that doctors will not see patients dead on a slab.

"We are training doctors to the standard of preregistration house officers and we hope they will not be dealing with too many dead people.

"There is quite a different argument about postgraduate training and I would suggest that, in the training of surgeons, you would need to teach dissection, but ours is an undergraduate course.

"We would be thoroughly in favour of those who go on to specialise in surgery learning through dissection. We would not want a surgeon who is cutting into a body to be doing it for the first time for real."

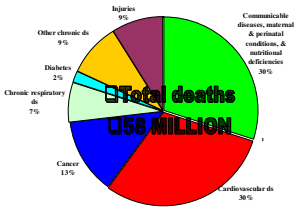
False predictions

- 'X rays will prove to be a hoax' Lord Kelvin, president of the Royal Society, 1899
- 'There is not the slightest indication that nuclear energy will ever be obtainable' Albert Einstein, 1932
- 'I think there is a world market for maybe five computers' Thomas Watson, Chairman of IBM, 1943
- '640K ought to be enough for anybody' Bill Gates 1981

Societal changes

- ❑ Increased longevity
- ❑ Growing burden of chronic diseases (many “lifestyle” related)
- ❑ Technological/pharmaceutical advance
- ❑ Reduced tax earner: beneficiary ratio
- ❑ Rising public expectation – extends to the medicalisation of preventative measures

Projected main causes of death, worldwide, all ages, 2005



- **Cardiovascular disease, mainly heart disease**
- **Cancer**
- **Chronic respiratory diseases**
- **Diabetes**

Preventing chronic disease a vital investment: World Health Organisation

Societal changes

- ❑ Increased longevity
- ❑ Growing burden of chronic diseases (many “lifestyle” related)
- ❑ Technological/pharmaceutical advance
- ❑ Reduced tax earner: beneficiary ratio
- ❑ Rising public expectation – extends to the medicalisation of preventative measures

“It’s my genes/glands doctor”

A common variant in the FTO gene is associated with BMI and predisposes to childhood and adult obesity.

The one in six adults homozygous for the risk allele weighed 3kg more and were 1.67 times more likely to be obese.

Frayling T M et al, Science 2007

Societal changes

- ❑ Increased longevity
- ❑ Growing burden of chronic diseases (many “lifestyle” related)
- ❑ Technological/pharmaceutical advance
- ❑ Reduced tax earner: beneficiary ratio
- ❑ Rising public expectation – extends to the medicalisation of preventative measures

How do we deliver more for less?

Achieving the cost effective skill mix that meets health need

Expeditious solutions
Role substitution

- May not be more cost-effective[1]
- May erode the professional base from which the substitute derives

[1] *Bonnie Sibbald et al; Changing the skill-mix of the health care workforce; Journal of Health Services Research and Policy Vol 9 2004; S1 28-38*

Simplistic solutions

"Skills escalator" and common Foundation for all

- Ignore the fact that different clusters of roles require different attributes, even if there is a common set of generic competencies we would wish to see in all healthcare professionals
- Healthcare professionals are more than a sum of their competences

What are the implications for the profession of medicine?

- Capable of change
- Capable of working in partnership with patients/other healthcare professionals
- Research literate
- Resource managers and "navigators"; not just advocates for individual patients
- Committed to public as well as individual health.

What has the MMC revealed about Medicine's preparedness for the future?

- MMC was a device to increase the number of 'fully trained specialists', that failed to acknowledge that clinical proficiency and expertise require knowledge and experience as well as demonstrable competence, and an environment that values excellence.
- It was not best designed to provide flexible, research literate doctors capable of leading service change

How did we end up in that position?

MMC Policy and Principles

- MMC meant different things to different people: Policy objectives unclear, compounded by workforce imperatives
- Guiding principles lacking (Key UFB principles of flexibility and 'broad based beginnings' lost)

Doctor Role Clarity

- "Trainees increasingly supernumerary"
- Post CCT role unresolved
  - against a background of deficient acknowledgement of what a doctor brings to the healthcare team.

Without role clarity

- Outcome focused medical education
- Medical workforce planning

- are impossible

What are the enduring features of the Doctor's role?

- Capable of the clinical reasoning that underpins diagnosis
- Able to deal with uncertainty/ambiguity and work 'off protocol'
- Able to lead when appropriate

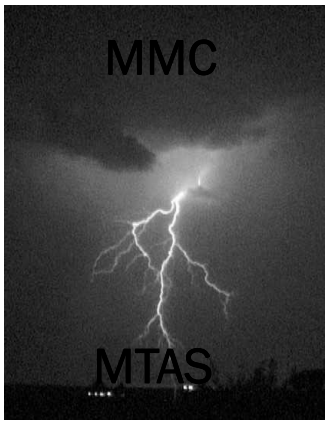
Characteristics of doctors: Society's view

	Agree/Strongly agree
Possess deep scientific knowledge	95%
Lead team	92%
Distinguished by ability to:	
❑ Make a diagnosis	84%
❑ Work "off protocol"	70%

YouGov Survey 2007; 2,357 respondents

MMC Implementation and Governance

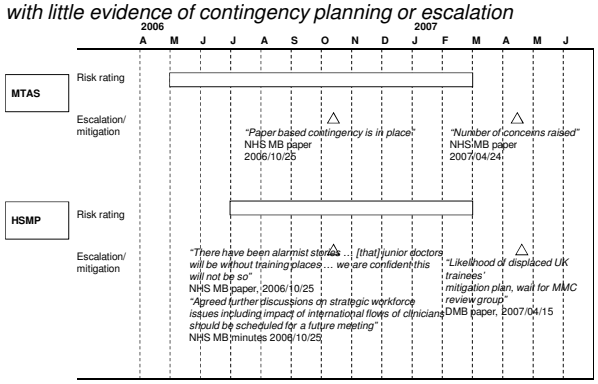
- Weak DH Policy development, implementation and governance
- Poor intra- and interdepartmental links, particularly health:education sector partnership



Photograph by: Dominic J H Egré MSc MIEM - Institute of Emergency Management

Figure 4.11

MTAS and HSMP risk ratings were red for at least six months with little evidence of contingency planning or escalation



Source: Based on review of DH MB and NHS MB meetings from May '06 to April '07 in which MMC was an agenda item

Corrective action

- DH Policy development, implementation and governance strengthened
- Medical Education lead (high level)
- One SRO (CMO)
- Health:education sector partnership strengthened
  - Healthcare Commission inspection regime
  - SHA CEO accountability (reflecting training commissioning budget holder status)

Q. *Can/should DH be attempting to manage such activity?*

MMC Workforce Planning

- Lack of Doctor role clarity
- Medical production line does not reflect evolving health policy/practice
- 'Run-Through' stifles workforce adaptability
- Policy vacuum regarding increased numbers of prospective trainees including IMGs
- FTSTAs – the new lost tribe?
- Planning capacity (and siting)

- Revised medical workforce advisory machinery (MWSAC)
- Oversight and scrutiny of SHA roles
- National commissioning of subspecialty training, reflecting Trust's capacity to offer optimal experience
- Policy regarding IMGs and the future career path of FTSTAs needs urgent resolution

MMC Medical Professional Engagement

- Despite involvement influence weak

But

- Sometimes deterred from questioning policy
- Inconsistent professional voice (although frequent calls for trialling and delay)

MMC: Management of PGMET in England

- Immense efforts to implement '07 scheme acknowledged but…
- Lack of cohesion
- Suboptimal relationships with service and academia

MMC: Regulation

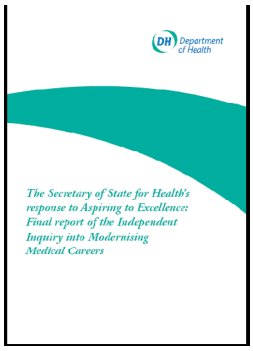
- The split between two bodies, GMC and PMETB creates diseconomies (finance and expertise)

PMETB merged within GMC offering:

- Economy of scale
- A common approach
- Linkage of accreditation with registration
- Sharing of quality enhancement expertise
- Reporting direct to Parliament, rather than through monopoly employer

What next?

What might this mean for diabetes?



NHS Next Stage Review

- Clinical roles
- Commissioning of education and training
- Workforce planning
- regulation

Doctor's role

- (Grudging) acknowledgement, but political correctness may still prevail
- Role substitution: not cost effective
- "With great power comes great responsibility" (spiderman)

Doctor's role

- Stop fretting about activities other clinicians can do as well/better
- Pursue enhanced roles:
  - Policy
  - Management
  - Education
  - Research
  - Public health etc

Education commissioning

- Transparent SIFT; standard (weighted) placement tariff
- Contracts for PGMET (not service contribution)

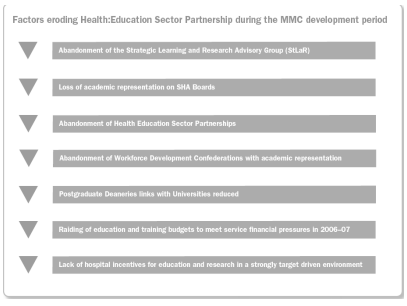
Blurring the boundaries

- Remove the research 'binary divide'
- Lengthen 'GP' training
- Intermediary specialists

Training structure

- Profound 'broad based beginnings' (Core)
  - because most medicine is complex
  - to provide future flexibility in workforce design

Health Education Sector Partnership



Harnessing academia to deal with today's and tomorrow's health agenda

- SHA CEOs accountable for health of academic partnership
- Trusts incentivised to engage in high quality education
- Greater focus on Applied Health Research
- Regional Biomedical Hubs?

The centrality of NHS:MEE

- Define the principles underpinning PGMET
- Act as the professional interface between policy development and implementation on matters relating to PGMET
- Develop a national perspective on training numbers for medicine working with the revised medical workforce advisory machinery
- Ensure that policy and professional and service perspectives are integrated in the construct of PGMET curricula and advise the Regulator on the resultant synthesis
- Co-ordinate coherent advice to government on matters relating to medical education
- Promote the national cohesion of Postgraduate Deanery activities
- Scrutinise SHA medical education and training commissioning, facilitating demand led solutions whilst ensuring national interests are safeguarded
- Commission certain small volume, highly specialised areas of medicine.
- Hold the ringfenced budget for medical education and training for England

Summary

- The health service will and must evolve
- Doctors are central to shaping that future
- Our education, informed by clarity of role, must prepare us for that future
- We have a singular opportunity to grasp this agenda

But Remember Spiderman*....*