Developing A Pragmatic Medical Curriculum for the 21st Century.

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Abstract:

Medical education within a hospital setting presents both opportunities and challenges. The range of educational experiences on offer are often vast, though may be lost in the overworked and convoluted environment of a tertiary centre. As our learners are increasingly consumed by the literal and figurative labyrinths of hospitals and electronic learning logs, are we failing to train them in the skills they need to deliver twenty-first century healthcare? In response to this problem we propose a FARCICAL approach – Fostering A Relevant Curriculum that Is Closer to Actual Life.

Introduction:

Hippocrates. Galen. Harvey. Osler. Watson. The one played by George Clooney on *ER*. As newly-qualified doctors follow in the footsteps of these grandees of medicine they should begin their careers with a sense of amazement, inquisitiveness and wonder. However, we must recognise the realities of modern

medicine: junior doctors are most amazed by the complexity of their labyrinthine ePortfolio; their curiosity is immediately satisfied by a quick supervision from Dr Google; and their wonder has turned to wondering how to extract their patient list from a jam in an apparently Neolithic hospital printer.

We can only dream what our aforementioned physicianly forebears would think of our profession in the 21st century (see Table 1 for our best guesses). However, it is our responsibility as today's educators to provide tomorrow's doctors with the knowledge, skills and attitudes that they need in the modern clinical environment. Traditional approaches based on the "doctor as a scholar and a scientist," "doctor as a practitioner," and "doctor as a professional"[1] are insufficient. We propose that medical curricula could be improved by being FARCICAL: Fostering A Relevant Curriculum that Is Closer to Actual Life. In this article we outline our proposal for FARCICAL training that prioritises teaching and assessment of skills relevant to the needs of the modern junior doctor.

Curriculum Core Competencies:

By completion of the undergraduate course, students will be competent in each of the five Pragmatic Domains (Figure 1).

- *The Doctor as a Bluffer:*

  Students should demonstrate familiarity with jargon, latin terminology, and acronyms learnt during their many years at medical school. When faced

with diagnostic uncertainty, the student will be expected to document these at length without providing a clear clinical picture. Formative assessment will be provided through preparation of a discharge letter: the candidate will lose a mark for every sentence understood by the receiving doctor, two marks for every sentence understandable to a lay reader, and fail outright if the letter is comprehensible to surgeons.

Students may undertake an elective in hospitals operating electronic record systems, focusing on how ward rounds may be improved through social media. Suggested Quality Improvement Projects (QuIPs) include the use of video sharing sites for endoscopic procedures (Your-Tubes) and the distillation of medical research to 140 characters (Numbers Needed to Tweet).

- *The Doctor as a Story-teller:*

  Students will be expected to refer a patient to a specialty they have never heard of regarding an esoteric disease in an organ they only found out existed five minutes previously. Students will be deemed to have passed if they get through the referral without hesitation, repetition and deviation whilst avoiding saying "my senior told me to call you." Remedial action will be taken for students who opt to "phone a friend" ("friend" being very loosely defined as their fellow trainees). Distinctions will be awarded to students who can convincingly cite the fictional journal where key studies

on the diseases in question were originally published in order to persuade the receiving specialty of the validity of their referral.

- *The Doctor as a Negotiator:*

  Students should demonstrate negotiation skills in establishing the market rate for senior doctors to complete work-based assessments. Lecturers are free to haggle, but should be guided by a minimum price of a latte for verbal feedback, an audit for any portfolio assessment, and free baby-sitting for end-of-rotation sign-off. Advanced students may have further training in negotiation skills by requesting investigations from radiologists (Nb: whatever the student says, the radiologist's answer is always "No" – negotiation skills are developed when the trainee pleads with senior colleagues to request the scan on their behalf, with a starting price of a beer for a CT and a mortgage deposit for anything involving nuclear medicine).

- *The Doctor as an Engineer:*

  Students should demonstrate knowledge of the inner workings of the ward printer, providing evidence of time management by prioritising likely causes of malfunction when faced with an imminent senior ward round. Core topics: turning the printer on and off again. Advanced topics: fixing the problem by opening and shutting covers at random.

- *The Doctor as a Treasure Hunter:*

> Students will be expected to acquire all components required to perform a lumbar puncture. Supervisors are reminded that, as per accepted international standards, all pre-prepared lumbar puncture kits have had one item removed at random. Should the student succeed in acquiring all pieces of equipment then distinctions may be awarded for additional findings around the hospital: a working ophthalmoscope, a tendon hammer, the Holy Grail, or a member of a medical school faculty doing clinical work.

All learning outcomes of the FARCICAL curriculum will be made available to students using the latest virtual learning environment, though only accessible seemingly at random and never to be found again (the hidden curriculum).

Assessment:

This FARCICAL curriculum will require adaptation of conventional assessment methods.[2] To reflect changing practice, the neurology examination has been removed from medical finals as it has not been performed during a medical take since 1981. Instead, a pass grade will be awarded to candidates that are able to document "neurology grossly normal" legibly in a clerking pro-forma (examiners please note that candidates will not be expected to differentiate "grossly normal" from "profound hemiparesis").

To maximise the validity of assessments we propose situating them in the student's future learning environment. Objective Clinical Hide and Seek

Examinations (OCHSEs) will involve supplying the candidate with vague hints of times and locations when the examiner *may* be available. This will prepare students for a future of hunting down seniors to complete work-based assessments prior to annual reviews. Alternatively, all existing finals exams could be dispensed in favour of a new assessment called "DOCS" (Directly Observed Common Sense). However, we appreciate that finding senior clinicians with the appropriate skill set for such an exam may make it prohibitive.

Curriculum evaluation:

How best to evaluate medical school teaching remains a subject of debate. A frequently advocated method for evaluating curricula is performance in postgraduate examinations. However, we believe that this approach may disadvantage the FARCICAL course, as it requires graduates to reach this stage of training before being sacked or sued. Alternative evaluation methods include student satisfaction surveys, though we acknowledge that prompting reflection on the foretaste of life as a junior doctor may invoke unnecessary existential angst. Ultimately the authors feel that medical school evaluation is best performed through robust contemporary methods and public engagement, i.e: reality television competitions with weekly elimination by telephone voting.

Conclusion:

Drastic times require drastic measures. This is particularly true of medical training in the modern healthcare environment. Following the trend already established in professional fields as diverse as politics and C-list celebrities, the benchmark of good medical practice should evolve beyond outdated models of care and competence and focus instead on style, presentation and an aggregate social media scoring system (Junior Doctor Quality = No. of Facebook friends x YouTube Likes/(1 - Hospital Trip Advisor Score). We feel that this new FARCICAL curriculum focuses on the real day-to-day expectations of a junior doctor and minimises unnecessary theoretical distractions such as physiology, pharmacology and, ultimately, any medical knowledge whatsoever.

Final reflections (for we are educationalists):

Of course, the medical profession, particularly its educators, can rarely be considered to be so cynical. The fact that learners (and indeed their teachers) are able to negotiate these real world demands and pitfalls whilst covering the broad spectrum of clinical and scientific content should be applauded. Whilst hospital-based medical training is fraught with such real world challenges, it is by no means an aberration. Clinical education in communities, primary and secondary care, in a range of healthcare services across the world will share many of these problems as well as having their own eccentricities (and some communities can be *very* eccentric). The test for medical education in the twenty-first century will be to embrace the challenges posed by evolving technology, increasingly complex service structures, and changing views of the clinician's role, whilst remaining true

to our established commitment to teaching the learner the skills they need to thrive as clinicians. That is, once they've fixed the printer…

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NRE and BW are specialist registrars in Stroke Medicine and Infectious Diseases respectively. Neither has completed their requisite number of work-based assessments and arguably their time could have been better spent. NRE devised and wrote the manuscript with contributions from BW. Though she did not write any of it, DFW reviewed the manuscript in an attempt to avoid a GMC investigation. Furthermore, the other authors plagued her for years as medical students and trainees, demanding her appearance in pantomimes and other unsavoury activities whilst shamelessly impersonating her when she wasn't available. Now they continuously demand her support in gaining endless postgraduate qualifications in Medical Education. Frankly, she despairs of the pair of them.

"He who studies medicine without books sails an uncharted sea, but he who studies medicine without Wikipedia is foregoing a speedboat for a pedalo."

@TheRealOsler

"First do no harm. Second get a loyalty card for the hospital's barista coffee shop."

#21stcenturyHippocrates

"The best physician is also a philosopher… and a typist… and a mechanic, secretary, courier, waste disposal expert, software engineer…"

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"All we know is still infinitely less than all that remains unknown… About the contents of the ward clerk's drawers! LOL"

Will.i.am Harvey

"When you have eliminated the impossible, whatever remains, however improbable, must be where you left the Australian elective student."

Dr John Watson MD LMAO

Table 1: Advice from the Greats.

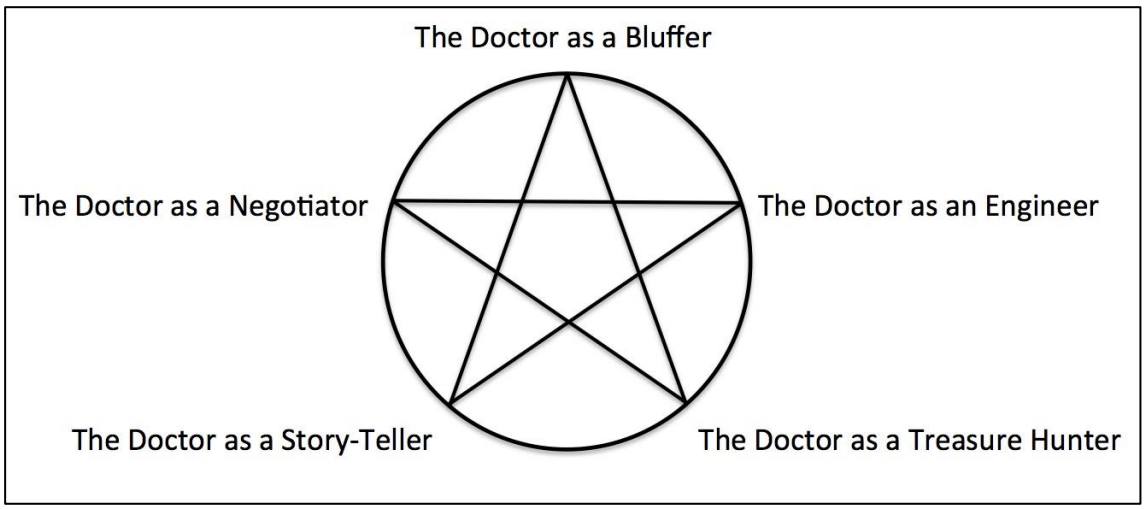

Figure 1: The Pentagram of Pragmatic Domains.

References:

1. General Medical Council. Tomorrow's Doctors: Outcomes and standards for undergraduate medical education. Manchester: General Medical Council; 2009.
2. Wood D, Roberts T, Bradley P, Lloyd D, O'Neill P. 'Hello, my name is Gabriel, I am the house officer, may I examine you?' or the Objective Santa Christmas Examination (OSCE). Med Educ. 1999;33(12):915-919.