

Medical professionalism: teaching, learning, and assessment

¹Gominda Ponnampereuma, ²Jean Ker, ³Margery Davis

Professionalism has been variously termed a philosophy, behavioural disposition, skill set, habit, concept having its roots in social justice or social contract. Project Professionalism's categorisation of professionalism provides a comprehensive, operational framework that includes six elements: altruism; accountability; excellence; duty; honour and integrity; and respect for others.

The place of professionalism as an exit learning outcome in the modern health professions' curricula is now established. The curriculum content that should be integrated into different courses must reflect the key attributes of a professional. A rich variety of teaching and learning methods are available for the health professions' teacher to select from, depending on the specific requirements of the course and the context. Goldie et al.

(2007) found that role modelling and early clinical contact have a profound influence on promoting professionalism. They also found that 'critical reflection' is the most effective technique for promoting professionalism.

Identifying what constitutes unprofessional behaviour is important when assessing professionalism. Portfolio assessment has been used as an assessment method. One-on-one interviews, peer assessment, teamwork exercises, standardised patient encounters, and student generated learning plans are other methods that can be included in the portfolio framework or stand alone. The main assessment tool for professionalism is the rating scale. Rating scales have been used to assess either behaviour in the workplace or response to case vignettes with critical incidents.

Introduction

'Professionalism' is one of the most elusive notions in modern medical practice. This article reviews the literature

relating to defining, teaching and learning, and assessing professionalism in health professions' education. It will be of interest to all doctors who teach medical students.

Definition and content

Professionalism is "a philosophy, a behavioural disposition, and a skill set that results from one of the fundamental relationships in human interaction" (Emanuel, 2004). Epstein and Hundert (2002) indicate that professionalism is built in as a 'habit'. "Professionalism" they suggest, is the "habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in daily practice for benefit of the individual and community".

'Social justice' has also been strongly linked with professionalism (Wear & Kuczewski, 2004; Wear 1997; Whitehouse & Fishman, 2004). Social justice deals

¹ Lecturer in Medical Education, Medical Education Development and Research Centre, Faculty of Medicine, University of Colombo, Sri Lanka, presently at Centre for Medical Education, University of Dundee, Scotland, UK

² Senior Lecturer and Director, Clinical Skills Centre, Ninewells Hospital and Medical School, University of Dundee, Scotland, UK

³ Professor of Medical Education and Director, Centre for Medical Education, University of Dundee, Scotland, UK

Correspondence:

Gominda Ponnampereuma, Centre for Medical Education, University of Dundee, Tay Park House, 484 Perth Road, Dundee DD2 1LR, Scotland, UK
Tel: 00 44 1382 381996 Fax: 00 44 1382 645748

Email: g.ponnampereuma@dundee.ac.uk

with the disparities in health that have been frequently attributed to social inequalities. Physicians, therefore, must consider issues related to socioeconomic disparities in their professional approach to patient care, the so-called 'social contract' model of professionalism (Kurlander *et al.*, 2004).

However professionalism has been interpreted, its definition has been criticised for being "too abstract" (Wear & Kuczewski, 2004) and there have been calls for 'operationalising' the definition of professionalism (Hafferty, 2004). In line with such calls, the 'Outcome Project' (ACGME – American Council for Graduate Medical Education, 2007) has described professionalism as follows (Surdyk, 2003):

- ✓ "Demonstration of respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society; and the profession; and a commitment to excellence and on-going professional development
- ✓ Demonstration of commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices
- ✓ Demonstration of sensitivity and responsiveness to patients' culture, age, gender, and disabilities."

The ABIM (American Board of Internal Medicine) definition of professionalism in their Physician Charter is similar to that of ACGME. The charter states that professionalism is a product of three fundamental principles: "primacy of patient welfare, patient autonomy, and social justice" (Sox, 2002). 'Project Professionalism' (ABIM, 2001) developed the Physician Charter and identified six key elements of professionalism: altruism (giving priority to patient interests rather than self-interests); accountability (being answerable to patients, society and profession); excellence (conscientious effort to perform beyond ordinary

expectation, and commitment to life-long learning); duty (free acceptance of commitment to service – i.e. undergoing inconvenience to achieve a high standard of patient care); honour and integrity (being fair, truthful, straightforward, and keeping to one's word); and respect for others (respect for patients and families, colleagues, other healthcare professionals, and students and trainees).

Professionalism and reflective practice

'Reflective practice' has been variously defined. Dewey's (1933) description of reflection as "an active, persistent and careful consideration of any belief.... or knowledge in the light of the grounds that support it and the further conclusions to which it tends" is perhaps the oldest definition. Emphasising experiential learning, Boyd and Fales (1983) describe reflection as "the process of internally examining and exploring an issue of concern, triggered by an experience, which creates and clarifies meaning in terms of self and which results in a changed conceptual perspective". Such experiential learning is akin to Schon's (1983) 'reflection-on-practice' and reflection-in-practice'. Al-Shehri (1995) suggests that reflection can be carried out at three hierarchical levels: descriptive, analytical or evaluative. Building on these levels, Atkin and Murphy (1993) identify self awareness, description, critical analysis, synthesis, and evaluation as the five key steps of reflection. Of the above steps, Ker (2002) emphasises self-awareness as the main process, around which reflective cycles revolve in clinical consultations. Given the above definitions, an operational definition of reflective practice can be derived by seeking answers to the questions: what did I learn from the experience; what have I to learn further; how will I learn further; and what further learning took place?

Throughout the literature, the process of achieving professionalism has been inextricably linked to reflective practice (Frankford *et al.*, 2000; Lepp *et al.*, 2003; Ginsburg *et al.*, 2003; Stern & Papadakis, 2006). Hilton and Slotnick (2005), explaining this link, note that the professional acquires professionalism through 'practical wisdom' or phronesis, when experience and reflection on experience over a long period are

integrated with the professional's evolving base of knowledge and skills.

Professionalism as an outcome

Professionalism was traditionally part of the hidden curriculum. It was "caught rather than taught", and implicit as an outcome rather than explicit (Stern & Papadakis, 2006).

Of late, however, schools of medicine and allied health professions the world over have recognised the importance of including professionalism as part of the formal, core curriculum. There is strong support for professionalism to be considered as an explicit learning outcome (ACGME, 2007; Harden *et al.*, 1999; CanMeds, 2000), a skill set (Emanuel, 2004) or a competency (Leach, 2004; Hester and Kovach, 2004; Fryer-Edwards & Baernstein, 2004). Many medical schools have either integrated curriculum content about professionalism within their curriculum, added courses on professionalism in the first two years, or have introduced assessment of professional behaviour into the clinical clerkships (Whitcomb, 2002).

A course that has professionalism as an outcome has to consider curriculum content, teaching and learning methods, and assessment.

Curriculum content relating to professionalism

In a systematic review, Veloski *et al.* (2005) identify ethics, decision making/moral reasoning, humanism, multiculturalism, empathy, values, truth telling, care for the vulnerable, trust, attitudes and communication, confidentiality of patient data, contact with patients, emotional intelligence, mental health, and self-assessment (using reflective practice) as the key attributes of a professional. These could facilitate the development of professionalism, and should be integrated into the component courses of the curriculum rather than taught as a stand alone course.

Teaching and learning methods

The lynch pin in teaching and learning professionalism is role modeling. Goldie *et al.* (2007) note that role modeling and

early clinical contact have a profound influence on promoting professionalism. Similarly, many educators believe that role modeling when combined with reflection-on-action is effective in teaching professionalism (Cote & Leclere, 2000; Stern, 2003; and Gracey *et al.*, 2005). Role modeling is a unique, subtle and transcending, mostly taking place unknown to both the teacher and the student. "Individuals who are seen as mentors may not realise that they are teaching professional values, and those not seen as mentors may believe that they are" (Stern, 2003). In short, "role modeling is in the eye of the beholder – the student, not the teacher" (Stern & Papadakis, 2006).

Many have utilised the link between professionalism and reflection to develop teaching and learning methods. Some interesting examples from individual schools are included here, although they are not necessarily practicable in other contexts. Fins *et al.* (2003) describe a palliative care course at Weill Medical College of Cornell University, New York that attempts to foster professionalism by freeing the students from all clinical responsibilities for two weeks, to give them time to reflect upon their experiences in the clinical setting. Minnesota Medical School's 20-hour first year medical course directly (through topic-specific reading and class exercises) and indirectly (through medical training and socialisation) addresses issues related to professionalism (such as how 'good doctoring' is linked to the status of medicine as a profession and medical practitioners as professionals), and places a strong emphasis on peer-reviewing and self-reflection (Hafferty, 2002). The 'Master Scholars Programme' in New York Medical School attempts to instill professionalism through theme-based societies that conduct student-led discussions on bioethics/human rights, health policy/public health, arts/humanities, biomedical sciences, and medical informatics/biotechnology. The programme contains structured exercises, brainstorming sessions (which can be considered as a precursor of reflection), student-led discussions, and faculty mentoring (Kalet *et al.*, 2002). The 'Professional Initiative' is another study programme of New York Medical School that is integrated with the existing

curriculum to promote professionalism through clerkship essays. The essays provide an opportunity to reflect on clinical experiences (Krackov, 2003). The 'Programme for Professional Values and Ethics in Medical Education' (PPVEME) at Tulane University Medical School, USA encourages self and group reflection about shared experiences (Lazarus *et al.*, 2000). In a student and faculty led educational project, Swedish and American nursing students used interactive videoconferencing technology to engage in reflective journaling, drama in education, photo-language (a form of non-verbal communication using pictures), and off-air meeting discussions to enhance personal and professional development (Lepp *et al.*, 2003). 'Talking Medicine', at University of Michigan Medical School, USA, is a series of tutor-facilitated small-group discussions, in which the students reflect on the process of becoming a physician and share ethically difficult but rewarding experiences. This course is backed up by prescribed readings on humanism and professionalism (Lypson & Hauser, 2003). In most of the above study programmes 'sharing experiences' has been a conspicuous, common theme, emphasising the power of revisiting experience. "Parables are a powerful means of transmission of cultural values; the norms of professional behaviour have been handed down through generations of doctors using stories with meaning" (Stern & Papadakis, 2006). Ginsburg *et al.* (2003) agree. "When students report professional lapses they invoke reasoning strategies that enable them to re-story the lapse. Their methods of re-storying provide an insight into the double-binds (or dilemmas) that the students experience, their efforts to transcend these double-binds, and through these, their emerging professional stance" (Ginsburg *et al.*, 2003).

Other techniques used in teaching and learning medical professionalism are: direct observation and feedback (Richardson, 2004); promotion of habit and attitude development (Rhodes, 2004); discourse analysis (Shirley and Padgett, 2005); and mentoring (Sarp *et al.*, 2005).

Assessing professionalism **Why assess professionalism**

The concept of assessing professionalism is not without dissent. Dudzinski (2004)

speculates that if accurate measurement is attempted, complex aspects such as integrity may run the risk of being oversimplified. Recently, however, this notion of 'measuring the immeasurable' has been overtaken by an evolving consensus that measuring the so-called 'soft' aspects of medical practice is as important as assessing other aspects such as history taking or physical examination. Cohen (2002) suggests that there is a "tendency to underemphasize, because they are harder to measure, the personal characteristics....., and to overemphasize the more easily measured indices of academic achievement." He has been more assertive in his recent presidential address to the Association of American Medical Colleges (AAMC): "Remember, we can't change what we don't measure..... Use that data (what you have measured) to inform the changes you wish to make to transform whatever crucibles of cynicism you find into cradles of professionalism. Doing so will ensure that the work ahead continues to be guided by physicians with a trustworthy moral compass" (Cohen, 2005).

Unprofessional behaviour

Fundamental to the assessment of professionalism is the identification of what is not professional; i.e. unprofessional behaviour. The work of Project Professionalism (ABIM, 2001) is enlightening in that it describes unprofessional behaviour in terms of seven broad categories of 'signs and symptoms'. They are: abuse of power (this is further sub-divided into: abuse while interacting with patients and colleagues; bias and sexual harassment; and breach of confidentiality); arrogance (offensive display of superiority and self-importance); greed (when money becomes the driving force); misrepresentation (lying, which is consciously failing to tell the truth; and fraud, which is conscious misrepresentation of material fact with the intent to mislead); impairment (any disability that may prevent the physician from discharging his/her duties); lack of conscientiousness (failure to fulfill responsibilities); conflicts of interest (this is further sub-divided into: self-promotion/advertising or unethical collaboration with industry; acceptance of gifts; and misuse of services – overcharging, inappropriate treatment or

prolonging contact with patients). The 26 elements that van de Camp *et al.* (2005) identified in their tool to assess professionalism, called the EPRO-GP (Evaluation of Professional behaviour in General Practice) in postgraduate general practice training in the Netherlands, can be mapped to the above ABIM categories.

Methods of assessing professionalism

Data for assessment of professionalism can be provided either by the individuals themselves or by an external assessor. Veloski *et al.* (2005), in a review of measures of professionalism, identify knowledge tests, personality tests, inventories of personal experiences, and attitude/opinion surveys as useful self-report instruments.

There also has been a keen interest to develop external assessment of professionalism linked to reflective practice. There is disagreement, however, regarding how. Both Davis *et al.* (2001) and Gordon (2003) state that the portfolio and interview are a method to assess professional and personal development. Baernstein and Fryer-Edwards (2003) show that one-on-one interviews alone can extract more information on reflection and professionalism than critical incident reports alone or in combination with one-on-one interviews. Epstein *et al.* (2004) call for comprehensive assessment, linking standardised patients with computer-based learning exercises, a team work exercise, and peer assessments, followed by student generated learning plans. They justify this approach saying that integrating multiple domains of professional competence is feasible, is useful, fosters reflection, and is sufficiently sensitive to detect change in students.

Parker (2006) argues that attitudes and behaviour should not be assessed in the same way that knowledge and competence are assessed. Although knowledge and clinical competence can be assessed by rewarding the candidates with marks for positively demonstrating their capability, attitudes and behaviour should be assessed by giving marks for not displaying unsatisfactory behaviour. Implicit in this argument is the presumption that the candidate has acceptable professional attributes unless proven

otherwise. Arnold *et al.* (2007), however, in a recent multi-institutional survey on peer assessment of professionalism found that there is a necessity to reward not only the abstinence from unprofessional behaviour, but also exemplary behaviour. The respondent medical students in four medical schools preferred feedback on professionalism that was: 100% anonymous; immediate; and focused on both professional and unprofessional behaviour, by rewarding exemplary behaviour and by addressing serious, repetitive professional lapses (Arnold *et al.*, 2007).

Instruments/tools for assessing professionalism

Though there may be dispute over the method of assessment, the basic tool (i.e. assessment instrument) used in most of the above reports is the rating scale. The Outcome Project (ACGME, 2007) and Project Professionalism (ABIM, 2001), indicate that structured, standardised rating scales are the most effective. Rating scales have been used in two contexts: to assess performance in the workplace, through direct observation (Cohen, 2001); and to assess how the students respond to case vignettes (ACGME, 2007). The P-MEX (Professionalism Mini Evaluation Exercise) of the ABIM (Norcini *et al.*, 2003) and EPRO-GP (van de Camp *et al.*, 2005) are examples of rating scales for assessing professionalism in the workplace. For assessing professionalism using case vignettes, both ACGME (ACGME, 2007) and ABIM (ABIM, 2001–pp. 11) have compiled compendia of case vignettes. Arnold (2002) classifies assessment instruments for 'professionalism as a comprehensive entity' into two similar categories: questionnaires about behaviour in the workplace and critical incident techniques related to residents' behaviours.

Rating scales have been used to assess professionalism in a variety of settings. ACGME, for example, uses rating scales in: self-assessment; direct observation by faculty; ethics OSCE (Objective Structured Clinical Examination) stations; peer-assessment (Hafferty, 2002); and 360-degree assessment (Kirk, 2007). All the above rating scales have demonstrated validity (Holmboe *et al.*, 2003; van de Camp *et al.*, 2005) and feasibility (van de

Camp *et al.*, 2005). Reliability, however, in many of these examples is not yet available.

Conclusion

This paper highlights the emphasis that modern medical curricula place on professionalism. These curricula use reflection in the teaching and learning of professionalism. Reflection alone, however, will not produce a professional, and strong role models are needed. A wide range of professionalism issues should be introduced to the students early in their career, and an array of opportunities should be provided for the student to experience these issues in practice. Feedback and reflection on these experiences will help the students internalise the behaviours that are expected from a professional. Assessment of professionalism is desirable and depends on the use of rating scales, with many different raters contributing.

References

- ABIM (American Board of Internal Medicine). (2001) *Project Professionalism*. (Philadelphia, Pennsylvania, ABIM). Available at: <http://www.abim.org/resources/publications/professionalism.pdf> (accessed on 10 August 2007).
- ACGME (American Council for Graduate Medical Education). (2007) Professionalism: assessment approaches. In: *Outcome project*. (Chicago, ACGME). Available at: <http://www.acgme.org/outcome/assess/profIndex.asp> (accessed on 30 March 2007).
- Al-Shehri, A. (1995) Learning by reflection in general practice: a study report, *Education for General Practice*, 7, pp. 237-48.
- Arnold, L. (2002) Assessing professional behaviour: yesterday, today, and tomorrow, *Academic Medicine*, 77(6), pp. 502-15.
- Arnold, L., Carolyn, S., Summers, K., Michael, P., Charles, P., Henry, P. & Stern, D.T. (2007) Can there be a single system for peer assessment of professionalism among medical students? *Academic Medicine*, 82(6), pp. 578-86.
- Atkins, S. & Murphy, K. (1993) Reflection: a review of the literature, *Journal of Advanced Nursing*, 18(8), pp. 1188-92.
- Boyd, E. & Fales, A. (1983) Reflective learning: key to learning from experience, *Journal of Humanistic Psychology*, 23(2), pp. 99-117.
- CanMEDS. (2000) CanMEDS 2000: extract from the CanMEDS 2000 project societal needs working group report, *Medical Teacher*, 22, pp. 549-54.
- Cohen, J.J. (2002) Our compact with tomorrow's doctors, *Academic Medicine*, 77(6), pp. 475-80.
- Cohen, J.J. (2005) The work ahead. AAMC Presidential Address, 2005. Available at: <http://www.aamc.org/newsroom/pressrel/2005/051106.htm> (accessed on 30 March 2007).
- Cohen, R. (2001) Assessing professional behaviour and medical error, *Medical Teacher*, 23(2), pp. 145-51.
- Cote, L. & Leclere, H. (2000) How clinical teachers perceive the doctor-patient relationship and themselves as role models, *Academic Medicine*, 75, pp. 1117-24.
- Davis, M.H., Friedman Ben David, M., Harden, R.M., Howie, P., Ker, J., McGhee, C., Pippard, M.J. & Snadden, D. (2001) Portfolio assessment in medical students' final examinations, *Medical Teacher*, 23, pp. 357-66.
- Dewey, J. (1933) *How we think* (Chicago, Regnery).
- Dudzinski, D.M. (2004) Integrity in the relationship between medical ethics and professionalism, *American Journal of Bioethics*, 4(2), pp. e26.
- Emanuel, L.L. (2004) Deriving professionalism from its roots, *American Journal of Bioethics*, 4(2), pp. e17.
- Epstein, R.M., Dannefer, E.F., Nofziger, A.C., Hansen, J.T., Schultz, S.H., Jospe, N., Connard, L.W., Meldrum, S.C. & Henson, L.C. (2004) Comprehensive assessment of professional competence: the Rochester experiment, *Teaching and Learning in Medicine*, 16(2), pp. 186-96.
- Epstein, R.M. & Hundert, E.M. (2002) Defining and assessing professional competence, *Journal of American Medical Association*, 287(2), pp. 226-35.
- Fins, J.J., Gentile, B.J., Carver, A., Lister, P., Acres, C.A., Payne, R. & Storey-Johnson, C. (2003) Reflective practice and palliative care education: a clerkship responds to the informal and hidden curricula, *Academic Medicine*, 78(3), pp. 307-12.
- Frankford, D.M., Patterson, M.A. & Konrad, T.R. (2000) Transforming practice organizations to foster lifelong learning and commitment to medical professionalism, *Academic Medicine*, 75(7), pp. 708-17.
- Fryer-Edwards, K. & Baernstein, A. (2004) Where the rubber meets the road: a cyclist's guide to teaching professionalism, *American Journal of Bioethics*, 4(2), pp. e22.
- Ginsburg, S., Regehr, G. & Lingard, L. (2003) To be and not to be: the paradox of the emerging professional stance, *Medical Education*, 37(4), pp. 350-7.
- Goldie, J., Dowie, A., Cotton, P. & Morrison, J. (2007) Teaching professionalism in the early years of a medical curriculum: a qualitative study, *Medical Education*, 41(6), pp. 610-7.
- Gordon, J. (2003) Assessing students' personal and professional development using portfolios and interviews, *Medical Education*, 37(4), pp. 335-340.

- Gracey, C.F., Haidet, P., Branch, W.T., Weissmann, P., Kern, D.E., Mitchell, G., Frankel, R. & Inui, T. (2005) Precepting humanism: strategies for fostering the human dimensions of care in ambulatory settings, *Academic Medicine*, 80, pp. 21-8.
- Hafferty, F. (2004) Toward the operationalization of professionalism: a commentary, *American Journal of Bioethics*, 4(2), pp. 28-31.
- Hafferty, F.W. (2002) What medical students know about professionalism, *Mount Sinai Journal of Medicine*, 69(6), pp. 385-97.
- Harden, R.M., Cosby, J.R. & Davis, M.H. (1999) AMEE Guide No. 14: Outcome-based education: Part 1 - An introduction to outcome-based education, *Medical Teacher*, 21(1), pp. 7-14.
- Hester, D.M. & Kovach, K. (2004) Trumping professionalism, *American Journal of Bioethics*, 4(2), pp. e51.
- Hilton, S.R. & Slotnick, H.B. (2005) Proto-professionalism: how professionalisation occurs across the continuum of medical education, *Medical Education*, 39(1), pp. 58-65.
- Holmboe, E.S., Stephen, H., Chung, J., Norcini, J. & Hawkins, R.E. (2003) Construct validity of the MiniClinical Evaluation Exercise (MiniCEX), *Academic Medicine*, 78(8), pp. 826-30.
- Kalet, A., Krackov, S. & Rey, M. (2002) Mentoring for a new era, *Academic Medicine*, 77(11), pp. 1171-2.
- Ker, J.S. (2002) Thesis: *The development of an instrument to assess professionalism-the reflective ability of medical students in an outcome based curriculum*, University of Dundee.
- Kirk, L.M. (2007) Professionalism in medicine: definitions and considerations for teaching, *Baylor Health Care System*, 20(1), pp. 13-6.
- Krackov, S.K., Levin, R.I., Catanese, V., Rey, M., Aull, F., Blagev, D., Dreyer, B., Grieco, A.J., Hebert, C., Kalet, A., Lipkin, M. Jr., Lowenstein, J., Ofri, D. & Stevens, D. (2003) Medical humanities at New York University School of Medicine: an array of rich programs in diverse settings, *Academic Medicine*, 78(10), pp. 977-82.
- Kurlander, J.E., Morin, K. & Wynia, M.K. (2004) The social-contract model of professionalism: baby or bath water? *American Journal of Bioethics*, 4(2), pp. e33.
- Lazarus, C.J., Chauvin, S.W., Rodenhauer, P. & Whitlock, R. (2000) The program for professional values and ethics in medical education, *Teaching and Learning in Medicine*, 12(4), pp. 208-11.
- Leach, D.C. (2004) Professionalism: the formation of physicians, *American Journal of Bioethics*, 4(2), pp. e11.
- Lepp, M., Zorn, C.R., Duffy, P.R. & Dickson, R.J. (2003). International education and reflection: transition of Swedish and American nursing students to authenticity, *Journal of Professional Nursing*, 19(3), pp. 164-72.
- Lypson, M.L. & Hauser, J.M. (2002) Talking Medicine: a course in medical humanism--what do third-year medical students think? *Academic Medicine*, 77(11), pp. 1169-70.
- Norcini, J.J., Blank, L.L., Duffy, F. & Fortna, G.S. (2003) The mini-CEX : a method for assessing clinical skills, *Annals of Internal Medicine*, 138(6), pp. 476-81.
- Parker, M. (2006) Assessing professionalism: theory and practice, *Medical Teacher*, 28(5), pp. 399- 403.
- Rhodes, R., Cohen, D., Friedman, E. & Muller, D. (2004). Professionalism in medical education, *American Journal of Bioethics*, 4(2), pp. e20.
- Richardson, B.K. (2004) Feedback, *Academic Emergency Medicine*, 11(12), pp. e1-e5.
- Sarp, N., Yarpuzlu, A.A. & Mostame, F. (2005) Assessment of time management attitudes among health managers, *The Health Care Manager (Frederick)*, 24(3), pp. 228-32.
- Schon, D. (1983) *The reflective practitioner: how professionals think in action* (London, Basic Books).
- Sox, H.C. (2002) Editorial – Medical professionalism in the new millennium: a physician charter, *Annals of Internal Medicine*, 136(3), pp. 243-6.
- Stern, D.T. (2003) Can professionalism be taught? Virtual Mentor: American Medical Association, *Journal of Ethics*. Available at: www.ama-assn.org/ama/pub/category/11716.html (Accessed on 9 August 2007).
- Stern, D.T. & Papadakis, M. (2006) Medical education: the developing physician – becoming a professional, *New England Journal of Medicine*, 355(17), pp. 1794-9.
- Surdyk, P.M. (2003) Education for professionalism: What counts? Who's counting? *Cambridge Quarterly of Healthcare Ethics*, 12, pp. 155-60.
- Van de Camp, K., Vernooij-Dassen, M., Grol, R. & Bottema, B. (2005) Professionalism in general practice: development of an instrument to assess professional behaviour in general practitioner trainees, *Medical Education*, 40, pp. 43-50.
- Veloski, J.J., Fields, S.K., Boex, J.R. & Blank, L.L. (2005) Measuring professionalism: a review of studies with instruments reported in the literature between 1982 and 2002, *Academic Medicine*, 8(4), pp. 366-70.
- Wear, D. & Kuczewski, M.G. (2004) The Professionalism Movement: can we pause? *American Journal of Bioethics*, 4(2), pp. e1.
- Wear, D. (1997) Professional development of medical students: problems and promises, *Academic Medicine*, 72(12), pp. 1056-62.
- Whitcomb, M.E. (2002) Fostering and evaluating professionalism in medical education – editorial, *Academic Medicine*, 77(6), pp. 473-4.
- Whitehouse, P.J. & Fishman, J.R. (2004) Justice and the House of Medicine: the mortgaging of ecology and economics, *American Journal of Bioethics*, 4(2), pp. e43.