

Are Medical Students' Views of an Ideal Physician Eroding? A Study on Perceived Qualities of a "Role Model" Doctor Before and After Housemanship and between Two Cohorts Five Years Apart

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Abstract

Introduction: This study aimed to examine the impact of housemanship and cohort effect on the perceptions of what constitutes a "role model physician" between 2 cohorts of medical students. **Materials & Methods:** Final year medical students of the Yong Loo Lin School of Medicine, National University of Singapore, from the classes of 2005 (pre- and post-housemanship) and class of 2009 (pre-housemanship) responded to an anonymous 25-statement questionnaire reflecting Fones et al's 25-item characterisation of a "role model" doctor. Qualitative data was also collected on student's perceived qualities of a role model doctor. **Results:** For the 2005 cohort pre- and post-housemanship, only 3 of the 25 items had increased in importance post-housemanship. However, when comparing the 2005 and 2009 cohorts pre-housemanship, the latter cohort placed significantly greater importance on 12 of the 25 items. Willingness to teach was identified via qualitative analysis as a new important quality of a role model doctor for medical students. **Conclusion:** The importance placed on characteristics of "role model" physicians were relatively unchanged by housemanship within the same cohort but increased with time between 2 cohorts 5 years apart. This suggests that professional standards of an "ideal" doctor expected and aspired to by medical students may not be eroding as feared by the medical profession and society.

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Introduction

Role modeling has been reported as an increasingly prominent teaching need and strategy in the field of medical education.¹ This aspect of training helps novice doctors to imbibe key values, attitudes, behaviours and ethics that define the medical profession. With the primary goal of medical education being to train "ideal" physicians, it becomes most crucial to break down the concept of what actually constitutes a good "role model" physician. Numerous studies have documented the qualities that define these "role model physicians" through perceptions of the medical students,^{2,3} residents,⁴⁻⁷ faculty,^{1,6,7} physicians^{1,8,9} and the public.¹ However, there are fears that professionalism,

humanitarianism, empathy, enthusiasm and idealism among medical students may be declining during medical school and after graduation.¹⁰⁻¹⁷ This may result in a decline in the value medical students place on qualities of a role model physician and an increasing dearth of role model physicians for young doctors and medical students to emulate. Unfortunately, there is little research on the changes in perceptions of a "role model" doctor within the same cohort or between cohorts over time.

Role model characteristics highlighted in past research have been commonly consolidated into the areas of clinical competence, teaching skills, and personal qualities.¹⁸ Fones et al examined the concept of the good doctor in respect to

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the views of faculty, physicians and the public in Singapore and found that the 25 qualities examined could be classified into 5 major domains: cognitive, conative, emotional, interpersonal, and moral-ethical.¹

The purpose of this study was to determine whether and how novice doctors' perceptions of a "role model physician" changed with housemanship within the same cohort, and whether these perceptions were different between an earlier and later cohort which were 5 years apart, using Fones et al's model.

Materials and Methods

Final year medical students from the Yong Loo Lin School of Medicine, National University of Singapore, of the classes of 2005 and 2009, responded to an anonymous hard copy 25-item questionnaire that reflected characteristics commonly associated with a "role model" physician before housemanship during their end-of-medical-school graduation ceremony in 2005 and 2009 respectively. Students from the class of 2005 repeated the medical education survey after completion of 1 year of housemanship in 2006 during their end-of-housemanship ceremony. There were no subsequent reminders to do the survey after these ceremonies because the survey was anonymous and hence, it was not possible to specifically know who had completed the questionnaire at these occasions and avoid duplicate surveys done by the same person. The main stem in the questionnaire asked, "How important are the following qualities in a good clinical role model?" and was followed by a list of the 25-item questionnaire that was directly derived from qualities associated with a "good physician," as characterised through Fones et al's 5-domain model.¹ Examples of "quality" items and their respective domains included: "is intelligent and bright" (cognitive domain), "does not mind long working hours" (conative domain), "has a positive outlook on life" (emotional domain), "is able to work well in a team" (interpersonal domain), and "respects confidentiality" (moral-ethical domain). The cognitive domain examines 8 qualities, the conative domain examines 2 qualities, the emotional domain examines 4 qualities, the interpersonal domain examines 6 qualities and the moral domain examines 5 qualities. Fones et al's 25 qualities of a role model physician were derived from qualitative interviews with doctors and medical students which suggests that the model has face validity. Items were scored by participants on a 5-point Likert scale (0 = not important, 1 = useful, 2 = important, 3 = very important, 4 = absolutely essential). We also asked participants at all 3 time points to elaborate on any of examined or new qualities they viewed as important in a "role model" physician as free text. Exemption from full institutional board review was obtained from the Institutional Review

Board of the National University of Singapore as surveys were anonymous.

Due to non-normal distribution of the data, an independent samples Mann-Whitney U test was utilised for interpretation of the results. Statistical analyses for inter- and intra-cohort assessment were conducted using Statistical Package for Social Sciences (SPSS, Version 20) and *P* values <0.05 were deemed as significant. Thematic analysis of the students' qualitative free text responses was performed and qualities viewed as important in a "role model" physician were classified according to 25 qualities examined. If there were qualities that were not part of Fones et al's 5-domain model, these qualitative responses were identified as new qualities of a "role model" physician.

Results

Amongst the class of 2005 (*n* = 208), 181 students participated in the survey before housemanship (87%) and 85 students participated in the survey after housemanship (41%). Amongst the class of 2009 (*n* = 220), 187 students participated in the survey before housemanship (85%). For both cohorts, all 25 qualities were rated at least important or greater (score of 2 or more). For the class of 2005 before housemanship, the interquartile range (IQR) of scores for all 25 items ranged from 2 (important) to 4 (absolutely essential), whereas for the class of 2009 before housemanship, the IQR of scores ranged from 3 (very important) to 4 (absolutely essential).

Before and After Housemanship in Class of 2005

Overall, there was little difference in the responses of the 2005 cohort before and after housemanship with regards to defining a "role model" physician. Responses to only 3 of the 25 statements demonstrated significant differences before and after housemanship: able to explain things clearly (cognitive domain, *P* = 0.047), not minding long working hours (conative domain, *P* = 0.036), and able to communicate in a patient's language/dialect (interpersonal domain, *P* = 0.050), as shown in Table 1. All 3 qualities increased in importance and no quality decreased in importance after housemanship.

Class of 2005 versus Class of 2009 (Before Housemanship)

However, when comparing the pre-housemanship results between the 2005 and 2009 cohorts, the latter cohort placed significantly more importance on 12 out of the 25 qualities examined: 'is intelligent and bright' (*P* <0.001), 'keeps up to date with medical advances' (*P* = 0.003), 'able to think independently' (*P* = 0.004), 'not minding long working hours' (*P* <0.001), 'has a positive outlook on life' (*P* <0.001), 'emotionally stable' (*P* = 0.002), 'understanding'

Table 1. Results of the Role Model Doctor Survey of Class of 2005 (Pre- and Post-housemanship) and Class of 2009 (Pre-housemanship)

Rate the Importance of the Following Quality for a “Role Model” Doctor*	Class of 2005			Class of 2009	
	Median (IQR Score)		P Value†	Median (IQR Score)	P Value§
	Pre-HO	Post-HO		Pre-HO	
A) Cognitive					
1. Is intelligent and bright	2 (2 – 3)	3 (2 – 3)	0.274	3 (2 – 3)	<0.001
2. Keeps up-to-date with medical advances	3 (2 – 3)	3 (2 – 3)	0.488	3 (3 – 4)	0.003
3. Is able to think independently	3 (2 – 3)	3 (2 – 3)	0.996	3 (3 – 4)	0.004
4. Has an orderly and logical mind	3 (3 – 4)	3 (2 – 4)	0.397	3 (3 – 4)	0.543
5. Is decisive	3 (3 – 4)	3 (3 – 4)	0.969	3 (3 – 4)	0.798
6. Is able to separate important points from details	3 (3 – 4)	3 (3 – 3.75)	0.182	3 (3 – 4)	0.782
7. Is knowledgeable about medical matters	3 (3 – 4)	3 (3 – 4)	0.897	3 (3 – 4)	0.397
8. Is able to explain things clearly	3 (3 – 4)	3 (3 – 4)	0.047	3 (3 – 4)	0.818
B) Conative					
1. Does not mind working long hours	2 (1 – 3)	2.5 (2 – 3)	0.036	3 (2 – 3)	<0.001
2. Inclined more towards helping people than making money	3 (3 – 4)	3 (3 – 4)	0.753	3 (3 – 4)	0.701
C) Emotional					
1. Has a positive outlook on life	3 (2 – 3)	3 (2 – 3)	0.432	3 (3 – 4)	<0.001
2. Is emotionally stable	3 (2 – 3)	3 (2.75 – 4)	0.116	3 (3 – 4)	0.002
3. Is an understanding sort of person	3 (3 – 4)	3 (3 – 4)	0.604	3 (3 – 4)	0.050
4. Able to remain calm under pressure	3 (3 – 4)	3 (3 – 4)	0.958	3 (3 – 4)	0.935
D) Interpersonal					
1. Able to communicate in a patient’s language/dialect	2 (2 – 3)	3 (2 – 3)	0.050	3 (2 – 3)	0.005
2. Tries to understand the cultural beliefs of the patient	3 (2 – 3)	2 (2 – 3)	0.515	3 (2 – 3)	<0.001
3. Has a likeable personality	3 (2 – 3)	3 (2 – 3)	0.253	3 (3 – 4)	<0.001
4. Is flexible and adaptable to change	3 (2 – 3)	3 (2 – 3)	0.179	3 (3 – 3)	0.271
5. Is able to work well in a team	3 (3 – 3)	3 (3 – 4)	0.268	3 (3 – 4)	0.021
6. Is comfortable dealing with people	3 (3 – 4)	3 (3 – 4)	0.437	3 (3 – 4)	0.131
E) Moral					
1. Is considerate of others’ feelings	3 (3 – 4)	3 (3 – 4)	0.881	3 (3 – 4)	0.047
2. Is willing to take time to listen sympathetically	3 (3 – 4)	3 (3 – 4)	0.728	3 (3 – 4)	0.271
3. Respects confidentiality	3 (3 – 4)	3 (2 – 4)	0.194	3 (3 – 4)	0.064
4. Is an honest person	3.5 (3 – 4)	4 (3 – 4)	0.500	4 (3 – 4)	0.360
5. Is responsible and can be trusted	4 (3 – 4)	4 (3 – 4)	0.985	4 (3 – 4)	0.566

HO: Housemanship; IQR: Interquartile range

*Items were scored by participants on a 5-point Likert scale (0 = not important, 1 = useful, 2 = important, 3 = very important, 4 = absolutely essential).

†Before and after housemanship for class of 2005.

§Between classes of 2005 and 2008 before housemanship.

($P = 0.050$), ‘able to communicate in a patient’s language/dialect’ ($P = 0.005$), ‘tries to understand the cultural beliefs of patients’ ($P < 0.001$), ‘has a likeable personality’ ($P < 0.001$), ‘works well in a team’ ($P = 0.021$) and ‘is considerate of others’ feelings’ ($P = 0.047$), as shown in Table 1. All 12 qualities increased in importance and no quality showed decreased importance within the responses of the latter cohort. Amongst the 12 qualities, the first 3 belonged to the cognitive domain, the next one to the conative domain, the following 3 in the emotional domain, the subsequent 4 in the interpersonal domain, and last one in the moral domain.

Table 2 details the students’ elaboration on the qualities of a “role model” physician classified according the 25 qualities examined. A new quality emerged from thematic analysis and this was the ‘willingness to teach’. As this quality reflected a natural tendency to share one’s knowledge with others, we classified this new quality under the conative domain.

Discussion

When considering the Yong Loo Lin School of Medicine class of 2005, the medical student cohort showed little change

Table 2. A Qualitative Analysis of Medical Student's Perceived Qualities of a Role Model Doctor

Qualities of a "Role Model" Doctor	Illustrative Quotations
A) Cognitive	
1. Is intelligent and bright	"Good clinical skills and acumen"
2. Keeps up-to-date with medical advances	"Current with his/her medical knowledge"
3. Is able to think independently	"Knows when to treat and when not to"
4. Has an orderly and logical mind	"Able to reason objectively and logically" "Logical and good approach to problems" "Able to make logical decisions"
5. Is decisive	"Considerate to others but assertive when sure of one's own decision"
6. Is able to separate important points from details	"Can sieve out important points from details" "Filters out important details"
7. Is knowledgeable about medical matters	"Able to communicate effectively with patients and team members"
8. Is able to explain things clearly	"Able to explain complicated facts in a simple manner to patients" "Able to transmit a clear perspective on the approaches to medical problems"
B) Conative	
1. Does not mind working long hours	"Willing to sacrifice one's spare time for the patient"
2. Inclined more towards helping people than making money	"Guided by ethics and not driven by personal gains" "Puts patient's interest before own self"
3. Willingness to teach*	"Passion for teaching" "Holistic, willing and enthusiastic in imparting knowledge and skills to others" "Cares deeply about student's learning" "Dedicated to teaching of fellow staff and students"
C) Emotional	
1. Has a positive outlook on life	"Not jaded", "Positive attitude [on] the job"
2. Is emotionally stable	"[Stays] positive despite heavy workload"
3. Is an understanding sort of person	"[Is] understanding with people"
4. Able to remain calm under pressure	"Able to keep calm and cool and work under pressure"
D) Interpersonal	
1. Able to communicate in a patient's language dialect	"Able to communicate with patients and [their] families" "Able to communicate and explain effectively to the patient"
2. Tries to understand the cultural beliefs of the patient	"Understands cultural beliefs"
3. Has a likeable personality	"Is cheerful and encouraging and makes patients happier after the consultation"
4. Is flexible and adaptable to change	-
5. Is able to work well in a team	"Excellent interpersonal skills with fellow colleagues, patients and students" "Develops rapport with patients, peers, colleagues and students"
6. Is comfortable dealing with people	"Good perception of patient's problems and needs" "Good social skills"
E) Moral	
1. Is considerate of others' feelings	"Concerned about patient" "Is concerned with the patient as a whole"
2. Is willing to take time to listen sympathetically	"Gives patients enough time" "Has patience with difficult patients" "Able to provide a listening ear"
3. Respects confidentiality	-
4. Is an honest person	"Honesty"
5. Is responsible and can be trusted	"Can be trusted" "Responsible in one's duties and diligent on one's work"

*Newly identified quality.

in their characterisations of “role model physicians” before and after housemanship. This suggests that housemanship training does not considerably change a newly graduated doctor’s overall perception of a “role model” physician. Interestingly, the 3 qualities that increased in importance after housemanship (i.e. ‘able to explain things clearly’, ‘not minding long working hours’ and ‘able to communicate in a patient’s language/dialect’) probably reflected qualities that became more desirable in a doctor who is viewed as a role model during the demanding period of housemanship which involves working closely and learning from senior members of the ward team, long working hours, and closer direct interactions with patients and their families, respectively.

Although cohort responses remained relatively stable over the course of housemanship, there were differences between the responses of the 2005 and 2009 cohorts pre-housemanship. The later cohort placed significantly more importance on 12 of the 25 statements, and amongst the remaining 13 statements, no sign of decreased importance was evident between the 2 cohorts. This suggests that the level of importance placed on certain qualities vary from cohort to cohort and may even be increasing with time. The increasing importance placed on these qualities of an ideal doctor could possibly be attributed to reforms in the curriculum at the Yong Loo Lin School of Medicine between 2005 and 2009, or a cohort effect with each subsequent generation of medical students placing greater emphasis on certain qualities of a role model doctor. During the period 2005 to 2009, Yong Loo Lin School of Medicine increased the emphasis on doctor-patient communication and patient-centred medicine by introducing patient communication teaching early in the first year of medical school, increasing the weightage of these components in clinical exams and actively selecting clinical mentors who were known for their excellent interpersonal and communication skills to be teaching faculty. We hypothesise that these curricular reforms increased the later cohort’s awareness of the importance of these attributes of a good doctor. Another possible ongoing phenomenon is that with medical knowledge and complexity constantly growing, younger generations of medical students increasingly appreciate a clinical mentor who keeps up-to-date with medical advances and is able to explain complex medical topics clearly and understandably.

Regardless of which hypothesis is correct, the increasing weight placed on these qualities suggests that the professional standards of an “ideal” doctor expected and aspired by newly graduated physicians may not be eroding as feared by the medical profession and society. There have been fears that professionalism, humanitarianism, empathy, enthusiasm and idealism among medical students decline during medical school and after graduation.¹⁰⁻¹⁵ It has also

been reported that the emphasis of modern medical education on the doctor’s emotional detachment and affective distance has contributed a decline in empathy within cohorts of medical students, and possibly doctors.^{9,19-21} Our results suggest that while the decline in the ideals of a good doctor may occur within a cohort, younger generations of doctors may be increasingly recognising the importance of interpersonal skills such as understanding the perspective of patients, communicating clearly with patients and being considerate of patients’ feelings. Despite the depersonalised environment of the Internet, electronic communication and isolating technology that younger generations of medical students are immersed in, it is reassuring that they possess a growing awareness of the need for a good doctor to have interpersonal skills, and be emotionally mature and sensitive to other people’s feelings. For instance, the use of online virtual learning platforms, such as online forums, is believed to help students reflect on their peer’s contributions. This allows them to participate in higher order processing of information which leads toward collaborative thinking, a product of the students’ interactions.²² Hence, through these reciprocal communications, critical analyses and reflections in the virtual platform, it may enhance student’s awareness of qualities needed in a “role model doctor”, and perhaps our fears that future generations of doctors will become detached, emotionally stunted and depersonalised are unfounded.

We discovered numerous student descriptions which point towards willingness to teaching as an important quality in a role model doctor. Indeed, reciprocity in terms of giving back by teaching, and the ability to inspire by example and bring out the best in students were of great relevance in defining a “role model doctor” by medical students. In a sense, the “role model doctor” is akin to a master whom the student as an apprentice tries to emulate or even surpass, apprenticeship being one of the educational theories which Kenny et al has identified as underpinning role modelling as an educational strategy.²³ However, the awareness of what makes a good role model doctor is not enough, and medical students need to actually acquire and assimilate these characteristics through situated and observational learning,^{24,25} and propagate them in future generations of doctors. Hence, to ensure the successful impartation of knowledge and professional values, it is imperative that we identify and support outstanding role model doctors through measures such as protected teaching time to allow them to carry out their mentoring.¹⁷

Our study has several limitations. Firstly, the response rate for the post-housemanship survey was low at 41%. However, we do not think that there were significant differences between responders and non-responders as the latter could not attend the end-of-housemanship graduation

ceremony due to work commitments rather than voluntary refusal to participate in the survey. Secondly, as data is not available on cohorts in between those of 2005 and 2009, it is uncertain whether these differences are captured as a result of these being 2 different cohorts or whether there truly was a year-by-year increase in the importance given to these qualities in a role model physician. Lastly, although Fones et al's concept of a role model physician has never been validated as a basis of a measurement tool, our finding that the importance placed on characteristics of "role model" physicians increased with time between 2 cohorts 5 years apart suggests that the scale we created was sufficiently sensitive to detect differences between groups of medical students.

Conclusion

Housemanship did not considerably change the perceptions of a role model physician within the same cohort of newly graduated doctors. However, the importance placed on these commonly identified role model physician characteristics increased in a later cohort of younger newly graduated doctors, suggesting that the level of importance placed by medical students on certain qualities of a "role model doctor" varies between cohorts and may even increase with time. The professional standards of an "ideal" doctor expected and aspired by newly graduated physicians may not be eroding as feared by the medical profession and society.

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