

Australian medical students' perceptions towards the introduction of MD courses in medical education

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Abstract

Introduction: There is an increasing trend away from undergraduate-entry to postgraduate-entry Doctor of Medicine (MD) courses of medical education. To date, data is lacking on the perceptions of the consumers of medical education, medical students, towards this trend. The following research aims to fill that gap to inform course developers, administrators and policy-makers. The objective was to explore the perceptions of Australian medical students towards the introduction of postgraduate-entry Doctor of Medicine (MD) programs.

Methods: Between September and October 2012, medical students across all medical courses and year levels in Australia were invited to participate in a survey to determine their perceptions of MD programs. Responses were received from 1,291 students (35.5%). The main outcome measures were mean scores on six items regarding the impact on professional practice of respondents and two items regarding the impact on future medical school places across three categories of medical course types.

Results: MD students were more positive about the impact of the MD program than both MBBS students at universities that also offer the MD program and MBBS students at universities without the MD program ($p<0.001$) for all six professional practice items. MBBS students at universities without the MD program were more positive than MBBS students at universities with the MD program for two professional practice items (interactions with other medical professionals, $p=0.007$; qualifications recognised overseas, $p<0.001$). MBBS students at universities without the MD program were more concerned than MD students regarding MD programs allowing domestic full-fee medical places ($p<0.01$). Average ratings for the possibility of MD programs allowing unregulated medical student numbers were similar across groups ($p=0.178$).

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Conclusions: While the introduction of MD courses to Australia has its benefits, potential disadvantages include decreased quality of medical education, decreased availability of post-graduate training, decreased diversity of the medical workforce, increased competition for educational resources and community misperceptions regarding MD graduates. These concerns may be addressed by governmental regulation, provision of additional resources and further research on community perceptions regarding MD graduates.

Keywords: medical education; Doctor of Medicine; survey; perceptions.

Introduction

Medical education in Australia has traditionally been delivered through Bachelor of Medicine and Surgery (MBBS or MBChB) programs. However, there has recently been an increasing trend towards postgraduate-entry Doctor of Medicine (MD) programs with six of the twenty medical schools, namely the University of Melbourne (MDANZ, 2012), Flinders University (2013), University of New South Wales (2013), University of Sydney (2013), University of Western Australia (MDANZ, 2012) and University of Queensland (2013), closing their MBBS courses and commencing MD courses in 2011, 2012, 2014, 2014, 2014 and 2015, respectively. The magnitude of this trend cannot be underestimated, with these universities together accounting for 45.64% of Australian medical students in 2012 (MDANZ, 2012). This shift has been explained by the universities adopting the MD program as an attempt to conform to the Bologna Declaration (Best & McColl, 2012), in order to improve the international attractiveness of Australian tertiary education and facilitate global mobility of Australian students (Pechar, 2007).

At present, there is no published data on Australian medical student perceptions towards the introduction of MD courses. Our objective was to explore student perceptions in order to inform course administrators, policymakers and the general medical community on the perceived effects of this significant change in Australian medical education (Roberts-Thomson, Kirchner, & Wong, 2010).

One concern that has been raised by medical student and doctor groups regarding the introduction of MD courses is that MBBS graduates may be disadvantaged due to MD graduates having a substantively similar medical education, yet holding a qualification traditionally used to designate a much higher degree of scholarship (Hanney, 2012).

In addition, universities have been prohibited from offering domestic undergraduate full-fee places since January 2009 (Gillard, 2008) in order to encourage equal opportunity and access to medical education regardless of socioeconomic background. As MD courses are graduate medicine courses, they are not subject to this restriction and allow universities to recruit domestic full-fee students. This raises concerns that those from low socioeconomic backgrounds may be financially restricted from studying medicine, reducing diversity in the medical workforce (Bradley, Noonan, Nugent, & Scales, 2008).

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Finally, there has recently been an unprecedented increase in the total number of Australian medical students (Catherine, Stoelwinder, McNeil, & Piterman, 2007). This has led to concerns surrounding the quality of medical education in terms of adequate supervision and clinical exposure, as well as the availability of post-graduate training (Catherine et al., 2007). While undergraduate medical student numbers are strictly regulated, full-fee graduate places are not restricted. This may place the quality of medical education and availability of post-graduate training at risk.

We aimed to explore whether any of these perceptions were held by Australian medical students and the extent to which they felt the introduction of the MD program would affect them.

Methods

In 2012, there were 16,868 medical students distributed across 20 medical schools in Australia (MDANZ, 2012). All Australian medical students are automatically members of the Australian Medical Students' Association (AMSA) and are eligible to register for the AMSA electronic mailing list. Our study used convenience sampling to distribute an electronic invitation to a survey via the AMSA mailing list twice during the two-month survey period (Sep–Oct 2012). All survey responses were completed anonymously, but participants who completed the survey had the opportunity to submit their contact details separately to enter the draw for a prize pool worth approximately A\$700, which was contributed to by various AMSA partners, none of which had any other involvement with the research. The study was approved by the Medical Education Human Ethics Advisory Group of the University of Melbourne (approval number 1238393).

A survey was developed specifically for this research. The survey included seven demographic items and eight items regarding perceptions towards MD courses based on perceptions previously raised in the medical education literature. There were a number of items that assessed perceptions towards medical education and AMSA's potential relationships with various industries of relevance to AMSA's broader interests but not to the present discussion. Student perceptions of the impact of MD courses on their professional practice were rated on a 5-point Likert scale, where 1 = *very negative* and 5 = *very positive*. Students also rated their level of concern about the potential impact of MD courses on domestic full-fee places and medical student numbers on a 5-point Likert scale, where 1 = *not at all* and 5 = *extremely*. Students were given the opportunity to clarify and expand upon their responses in comments boxes.

Data analysis

Student MD status was categorised according to whether respondents were: (1) studying in an MD program, (2) studying an MBBS at a university that offered an MD or (3) studying an MBBS at a university without an MD program. In 2012, these groups contained 1,235 (7.3%), 655 (3.9%) and 14,978 (88.8%) students, respectively (MDANZ, 2012). Non-parametric analyses (Kruskall-Wallis tests) were conducted to explore variation in student perceptions of the impact of the introduction of MD

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programs within universities on students' professional practice according to their MD status. These analyses were used because of the large discrepancies in group size for the student MD status variable.

Results

Participants

Students from all twenty medical schools and all year levels in Australia responded to the survey, with a total of 1,291 respondents representing 35.5% of the AMSA mailing list membership at the time of the survey. Eighty-five respondents (6.6%) indicated that they were studying in an MD program, 64 (5.0%) were studying for an MBBS at a university that offered an MD program and the remaining 1,142 (88.5%) were studying an MBBS at a university that did not offer an MD program.

Professional impact of MD courses on respondents

There was significant variation in average ratings for the perceived impact of MD courses on students' professional practice according to their MD status. Table 1 shows the means and standard deviations for the perception of impact on professional practice measures according to respondents' MD status.

Table 1
Means (and Standard Deviations) for Student Perceptions of the Impact of the MD on Their Own Professional Practice According to MD Status

Perception of impact of the introduction of the MD on:	MD Status											
	Studying an MD			Studying an MBBS at universities with an MD			Studying an MBBS at universities without an MD			Total		
	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Interaction with patients	3.82	0.91	72	2.81	0.78	59	3.06	0.69	767	3.11	0.74	898
Interaction with other medical professionals	3.76	0.91	76	2.80	0.70	61	3.10	0.85	803	3.13	0.87	940
Ability to gain an internship place on completing your medical course	3.67	0.91	54	2.87	0.75	55	3.02	0.99	828	3.05	0.98	937
Ability to have your qualifications recognised overseas	4.19	0.77	69	2.96	0.85	51	3.51	1.12	833	3.53	1.11	953
Ability to gain entry to specialty training programs	3.69	0.86	59	2.85	0.81	54	3.17	1.01	797	3.19	1.00	910
Ability to be published in an academic journal	3.73	0.87	62	3.02	0.58	52	3.29	0.88	803	3.30	0.87	917

Note: 1 = very negative, 2 = negative, 3 = neutral, 4 = positive, 5 = very positive

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Table 2

Test Statistics for Analysis of Perceptions of MD Course Impact on Students' Professional Practice According to Their MD Status^{a,b}

Perception of impact of the introduction of the MD on:	χ^2	df	<i>p</i>
Interaction with patients	64.88	2	<0.001
Interaction with other medical professionals	47.77	2	<0.001
Ability to gain an internship place on completing your medical course	23.47	2	<0.001
Ability to have your qualifications recognised overseas	41.67	2	<0.001
Ability to gain entry to specialty training programs	22.50	2	<0.001
Ability to be published in an academic journal	19.48	2	<0.001

^a Kruskal-Wallis test

^b Grouping variable: MD status

Table 2 shows the associated chi-square statistic and *p*-value for each comparison. Follow up Mann-Whitney U tests indicated that students studying for an MD were consistently more positive about the impact of the MD program compared with the other two groups. In all cases, the average ratings for the impact of the MD program for students studying an MBBS at universities with an MD course were lower than for those studying for an MBBS at universities without an MD program; however, in only two cases was this statistically significant. Students studying for an MBBS at a university that did not offer an MD program were more positive about the impact of the MD program on interactions with other medical professionals ($z=2.7$, $p=0.007$) and the ability to have qualifications recognised overseas ($z=3.83$, $p<0.001$) than students studying for an MBBS at a university that offered the MD.

Impact of MD courses on future medical school places

Table 3 shows the means and standard deviations for student ratings of their concern about the impact on future medical students according to respondents' MD status.

There was significant variation in average ratings for student concern that the introduction of the MD may allow universities to offer full-fee domestic places for medical courses according to respondents' MD status, $\chi^2(2)=10.25$, $p=0.006$. However, average ratings for concern about recruiting an unregulated number of students into MD programs was similar across the MD status groups, $\chi^2(2)=3.46$, $p=0.178$.

Follow up Mann-Whitney U tests indicated that MBBS students studying at universities without an MD were more concerned about the possibility of the MD allowing an unregulated number of domestic full-fee places in medical courses compared with MD students. Average ratings for students studying an MBBS at universities without the MD were similar for MBBS students studying alongside an MD course.

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Table 3

Means (and Standard Deviations) for Student Concern About the Impact of the Introduction of the MD on Future Medical School Positions According to MD Status

Level of concern that the MD allows universities to:	MD Status											
	Studying an MD			Studying an MBBS at universities with an MD program			Studying an MBBS at universities without an MD program			Total		
	M	SD	N	M	SD	N	M	SD	N	M	SD	N
Offer domestic full-fee places in medical courses	2.59	1.27	85	2.86	1.47	64	3.04	1.32	1142	3.00	1.33	1291
Recruit an unregulated number of students into these programs	3.45	1.37	85	3.63	1.33	64	3.72	1.27	1142	3.70	1.28	1291

Note: 1 = not at all, 2 = a little, 3 = moderately, 4 = very much, 5 = extremely

Discussion

Our study is the first to our knowledge to explore the perceptions of Australian medical students towards the introduction of MD courses in medical education in Australia. As direct consumers of medical education, the perceptions of medical students can guide course administrators in understanding and managing this significant change. Since the completion of this survey, medical student numbers have continued to change, with the numbers within each of our surveyed groups as follows: (1) studying in an MD program: 5,034 (29.9%), (2) studying an MBBS at a university that offered an MD: 698 (4.1%) or (3) studying an MBBS at a university without a MD program: 11,105 (66.0%) (MDANZ, 2014).

Students who are studying MD courses are most positive about the likely impact of this change on their professional practice compared to students with less experience of the MD, namely those studying MBBS courses. Perception of impact on interactions with patients and other medical professionals may reflect experienced or expected competition for educational resources between MBBS and MD courses as the former is phased out and the latter phased in at a particular medical school. This is supported by the finding that MBBS students studying alongside MD students were more negative about these two aspects than MBBS students at a medical school without an MD program. Medical schools phasing in MD courses should consider these potential conflicts when planning such a change.

The less positive ratings by MBBS students for “ability to gain an internship place on completing your medical course,” “ability to have your qualifications recognised overseas,” “ability to gain entry to specialty training programs” and “ability to be published in an academic journal” could reflect concerns from MBBS students that the MD degree will be considered by the public and potential employers as a more advanced qualification despite similar training.

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It has been suggested as early as 2010, before the first Australian MD course had commenced, that such a situation may arise, potentially leading to a divided profession (Roberts-Thomson et al., 2010). While it is unclear what impact this will have on future medical practice in Australia, MBBS students' lower ratings for these items may reflect fears of being considered less favourably than MD graduates in what is becoming an increasingly competitive domestic medical workforce marketplace. Attempts to mitigate these concerns have been made by some universities through publicising that for the purposes of employment, Australian MD and MBBS degrees are equivalent; however, the success of these measures has not been assessed to our knowledge.

We also aimed to explore medical students' perceptions towards the potential change in degree structure from undergraduate to graduate associated with the introduction of MD courses, which would allow universities to bypass government regulations on overall medical student numbers as well as the capacity to offer full-fee places.

The recent increase in medical student numbers has raised potential concerns surrounding the quality of medical education and availability of post-graduate training (Catherine et al., 2007). As graduate medical student numbers are not regulated in the manner that undergraduate medical student numbers are, the trend to post-graduate medical education may exacerbate the existing medical student oversupply.

In addition, while universities may no longer offer full-fee undergraduate positions, this restriction does not apply to graduate courses. As a result, the trend to post-graduate medical education may be accompanied by a trend towards a large number of full-fee medical places, which may financially restrict some students from studying towards a medical degree and thus limit the diversity of the medical workforce.

While both of these issues were a concern, respondents were more concerned about increasing medical student numbers than they were about the creation of further domestic full-fee places. This may reflect that while the FEE-HELP loan system may assist with large student debts and help mitigate the financial concerns surrounding full-fee courses, there is no simple way to address the issue of rising medical student numbers.

Limitations

The convenience sampling method that was utilised may have oversampled students who are more engaged with AMSA, hold strong views or are more vocal about expressing these views, particularly given the relatively low response rate. However, the characteristics of the survey sample were similar to those of the medical student population, which imply that the survey findings can be considered broadly representative of the medical student population.

Conclusions

This is the first study to date that elicits the perceptions of medical students on the impact of the introduction of MD courses in medical education in Australia. Advocates of MD courses suggest that they offer some advantages; however, others argue that MD courses have the potential to increase both medical student numbers and full-fee medical school places, which may have adverse effects on the quality of medical education, availability of post-graduate training and the diversity of the medical workforce. These

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concerns may be mitigated with regulation on the quantity and fee type of the MD courses made available. In addition, MBBS students indicated that the introduction of MD courses may negatively impact on their interactions with patients and other medical professionals. This may reflect a perceived or actual competition for education resources between MD and MBBS students as the former is introduced and the latter phased out. This tension may be eased by universities devoting additional resources to ensure that both types of students feel that they are being adequately supported during the transition. Finally, MBBS students may hold the view that the community will regard the MD degree as a significantly more advanced qualification than the MBBS degree. Further research on the perceptions of prospective employers and the general public towards MD graduates compared with MBBS graduates may shed light on whether these concerns are actual or perceived, and follow-up research tracking how the perceptions assessed in this research have changed over time would be informative.

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