

Changes in the perception of primary care practice during the medical curriculum in Geneva, Switzerland

Bernard Cerutti^a, Noëlle Junod Perron^b, Elisabeth van Gessel^c, Klaus-Dieter Haensgen^d, Johanna Sommer^b

^a Unit of Development and Research in Medical Education, Faculty of medicine, University of Geneva, Switzerland

^b Department of Primary Care Medicine, University Hospital, Geneva, Switzerland

^c Interprofessional Simulation Centre, Faculty of medicine, University of Geneva, Switzerland

^d Centre for the development of test and diagnostic, University of Freiburg, Switzerland

Primary care is the pedestal base that should guarantee rapid and efficient access to high-quality care while optimising the experience of the patient and minimising cost [1]. Nevertheless, stagnation or a career shift from primary care to medical specialities has been observed over the last decades [2]. This is predominant in countries such as Switzerland where healthcare organisations rely mainly on specialty care services [3]: fewer than 20% of graduate doctors intend to go into primary care [4, 5], whereas 50–60% are needed to cover population needs [6].

Simultaneously, the image of primary care among students suffers [7, 8]. Students consider the role of primary care physicians to be versatile and challenging, but too hasty, lonely and uncertain, dealing with non-medical problems and with working conditions difficult to control [9, 10].

In 2010, students about to start a medical curriculum in Geneva had to take a preregistration test designed to measure their ability to think and reason abstractly, and to learn from past experiences and apply this learning to specific situations. At the end of the test, they were asked about their career choice and image of primary care. The objective of the present study was to compare the image of primary care among the same students three years later, at the end of the preclinical years, and investigate potential links with gender or intention to work as primary care physician.

Material and methods

This single site (University of Geneva) cross-sectional study, based on self-administered questionnaires, was repeated twice: a paper survey made during the preregistration test held on July 2010 ($N_1 = 353$), and an online survey held in June 2013 among all the students who were about to finish their third year ($N_{2,1} = 144$), which concludes the preclinical curriculum. Because many students repeat the first year, which is a selection year, the survey was also carried out among second year students ($N_{2,2} = 172$).

In both surveys, a 15-item *ad hoc* questionnaire developed by the Centre for the Development of Tests and Diagnostics

of Fribourg was used. The 15 items (on 1 to 4 Likert scale) dealt with different aspects of the occupation as primary care physician (table 1). Gender and intention to work as a primary care physician were also asked. The 2013 survey included two additional questions: current level of study (second or third year), and participation in the 2010 preregistration test.

Anonymity of the participating students and data safety were ensured. Completion of the survey was understood to imply consent for participation in the study.

The main outcome was the set of 15 items regarding the occupation as primary care physician. Analyses of variance were used to investigate an effect associated with year of survey and, for the 2013 survey, gender and the intention to work as a primary care physician. The Bonferroni correction was used to control the family-wise error rate: levels of significance were set to $0.05/15 = 0.0033$.

Results

The response rate was 85.6% in 2010 and 65.2% in June 2013. Between the beginning of the medical curriculum in 2010 and the end of the preclinical years, the image of primary care significantly changed for 10 out of 15 evaluation items (table 1).

There was no difference between students in their second or third year (the 2013 survey), nor between the students who attended or did not attend the preregistration test held in 2010. Before starting the medical curriculum, 5.9% of the students (5.7% of women and 6.4% of men) were considering working as a primary care physician in a private practice. Three years later, 20.5% (25.9% of women and 14.1% of men) were considering working as a primary care physician in a private practice. This subgroup thought that the profession was more attractive, more varied, with many interesting patients, and offering good career opportunities. Women generally considered this activity to offer good career opportunities.

Discussion

The image of primary care clearly deteriorated during first years of the curriculum with respect to emotional burden, job attractiveness, financial risk, income and regulation. However, a significantly higher proportion of students considered working in a primary care practice.

This deterioration can be explained by a preclinical curriculum with very little exposure to primary care experiences, and mostly structured by basic science teaching sessions provided by specialists. It has been reported that specialised physicians tend to convey more or less consciously a negative image of general medicine to students during training [11, 12].

The perceptions that changed most after three years essentially dealt with extrinsic factors such as prestige, income, financial risk and career opportunities, whereas many intrinsic factors such as perception of patients' profiles and variety of work changed to a lesser extent. These negative perceptions may have been shaped by personal, familial or even media/political representations of primary care practice [13]. It may also reflect a loss of idealism when students face the reality of medicine in general. Indeed, pressure on doctors resulting from different healthcare reforms, combined with high medical practice rental conditions, may impact on the autonomy, prestige and income of physicians.

The fact that female students considered a primary care career more positively than men, and that students interested in primary care did not have high income expectations and

were not interested in prestige and modernity (high tech) is not new. The option of primary care medicine as a career choice on entry is fundamental [15] and has been found to be one of the most important predictors for the ultimate career choice of students [16].

One asset of the study was the follow-up of the same cohort of students, and the good response rates. Weaknesses included the carrying out in one site (sample size and representativeness), the repeated cross-sectional design (no follow-up at an individual level). This study should be repeated among the same cohort after the three-year clinical curriculum.

Since 2012, strong political commitments have been made to make the primary care activity more attractive, and to remedy the shortage of primary care physicians in Switzerland [17]. Regular surveys are necessary to monitor these changes and determine whether such reforms influence the perception of primary care among students, and their processes of career decision.

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Correspondence: Bernard Cerutti, PhD MPH, Unit of Development and Research in Medical Education, Faculty of

Table 1: Opinion (mean \pm standard deviation) of the students regarding the occupation as primary care (PC) physician before starting the medical curriculum (2010), at the end of the bachelor years (2013).

Item	Left side label	Right side label	2010	2013	Effect size	p-value	2013 Gender			2013 Considering PC		
							Men n = 95 Mean \pm SD	Women n = 110 Mean \pm SD	p-value	Yes n = 41 Mean \pm SD	No n = 160 Mean \pm SD	p-value
1	1 on the Likert scale	4 on the Likert scale	n = 302 Mean \pm SD	n = 206 Mean \pm SD								
1	It would be too risky for me to become an independent PC physician	I can easily take the risk to become an independent PC physician	2.7 \pm 0.9	3.0 \pm 0.8	+3.9	0.0001*	3.0 \pm 0.8	3.0 \pm 0.8	0.6742	3.5 \pm 0.7	2.9 \pm 0.8	<0.0001*
2	Easy to follow continuous specialised training	Difficult to follow continuous specialised training	2.4 \pm 0.8	2.3 \pm 0.7	-0.5	0.6108	2.3 \pm 0.7	2.3 \pm 0.7	0.8364	2.3 \pm 0.7	2.6 \pm 0.6	0.0124
3	No career opportunity	Good career opportunities	2.9 \pm 0.9	2.6 \pm 0.9	-3.7	0.0003*	2.4 \pm 0.9	2.8 \pm 0.8	0.0006*	3.1 \pm 0.9	2.5 \pm 0.9	0.0002*
4	High prestige among peers	Low prestige among peers	2.8 \pm 0.9	3.0 \pm 0.9	-1.8	0.1032	3.1 \pm 0.9	2.8 \pm 0.9	0.0733	2.9 \pm 0.9	3.0 \pm 0.9	0.41624
5	Few interesting patients	Many interesting patients	2.7 \pm 1.0	2.7 \pm 0.9	-1.0	0.3154	2.6 \pm 0.9	2.7 \pm 1.0	0.6825	3.2 \pm 0.8	2.5 \pm 0.9	<0.0001*
6	Low emotional burden	High emotional burden	3.0 \pm 0.9	3.5 \pm 0.6	+8.5	<0.0001*	3.5 \pm 0.6	3.5 \pm 0.6	0.9809	3.6 \pm 0.5	3.5 \pm 0.6	0.3093
7	Dependence	Independence	3.0 \pm 1.0	3.1 \pm 0.8	+1.5	0.1294	3.1 \pm 0.8	3.1 \pm 0.8	0.8636	3.4 \pm 0.6	3.0 \pm 0.8	0.0034
8	Unattractive job	Attractive job	3.0 \pm 0.9	2.4 \pm 1.0	-7.6	<0.0001*	2.2 \pm 0.9	2.5 \pm 1.0	0.0175	3.4 \pm 0.6	2.1 \pm 0.8	<0.0001*
9	High financial risk	Low financial risk	3.0 \pm 0.8	2.5 \pm 0.9	-6.8	<0.0001*	2.5 \pm 0.9	2.5 \pm 0.9	0.9402	2.5 \pm 0.8	2.4 \pm 0.9	0.6925
10	High social prestige	Low social prestige	2.2 \pm 0.8	2.6 \pm 0.8	+5.7	<0.0001*	2.6 \pm 0.8	2.6 \pm 0.8	0.7136	2.5 \pm 0.9	2.6 \pm 0.8	0.4313
11	Varied work	Boring work, lot of routine	2.2 \pm 1.0	2.5 \pm 1.0	+3.8	0.0001*	2.6 \pm 1.0	2.5 \pm 1.0	0.7996	2.0 \pm 0.8	2.7 \pm 1.0	<0.0001*
12	Low income	High income	2.9 \pm 0.8	2.2 \pm 0.8	-10.0	<0.0001*	2.1 \pm 0.8	2.3 \pm 0.7	0.1035	2.4 \pm 0.8	2.1 \pm 0.8	0.0595
13	Light workload schedules	Heavy workload schedules	3.2 \pm 0.8	3.1 \pm 0.7	-2.1	0.0383	3.1 \pm 0.7	3.1 \pm 0.8	0.8523	3.2 \pm 0.7	3.0 \pm 0.8	0.0952
14	Not modern	Modern	3.2 \pm 0.8	2.7 \pm 0.8	-7.1	<0.0001*	2.7 \pm 0.8	2.7 \pm 0.7	0.7000	3.0 \pm 0.7	2.6 \pm 0.8	0.0053
15	Sparsely regulated	Highly regulated	3.3 \pm 0.7	3.0 \pm 0.7	-4.7	<0.0001*	3.1 \pm 0.7	2.9 \pm 0.7	0.0411	3.1 \pm 0.7	3.0 \pm 0.7	0.3683

* p-value lower than 0.0033 = 0.05/15 (Bonferroni correction)

medicine, 1 Rue Michel Servet, CH 1211 Geneva, Switzerland,
[bernard.cerutti\[at\]unige.ch](mailto:bernard.cerutti[at]unige.ch)

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