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## Admission of Sri Lankan students for medical education: time to review

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### Introduction

In this submission we discuss aspects of selection of students to medical schools and basic qualifications that students should possess to follow medical courses outside Sri Lanka with the hope of practicing medicine in Sri Lanka. In Sri Lanka A Level students are chosen to study medicine based on merit and district quotas.

Undergraduate medical education in Sri Lanka began in the 19th century with a short-lived medical school in Manipay (1848) and next the Ceylon Medical College in 1870. After nearly a century other medical schools were opened, and at present there are eight government medical schools and one other under the Ministry of Defense. During these 167 years or so, global changes have taken place regarding the concept of the role of the physician, primary health care, community based health care, family medicine, mental health, health of the elderly, investigative medicine, information technology and educational theory. These changes have influenced the direction and philosophy of medical education and the kind of starting material that should be recruited for medical studies.

The starting material, the student, has to be pluripotent, have adequate intellectual capacity and the potential to acquire skills if he is to be molded into a 'quality doctor'. Proper selection of this student is of paramount importance if we are to fulfill the ultimate aim of producing good and competent doctors.

### Current system of selection to medical education

The University Grants Commission (UGC) of Sri Lanka stipulates 3 S as minimum grades for entry to medical education. However, in practice, 3 S denotes only the eligibility for application since the selection of students for admission to a government medical faculty for a given academic year is based on the rank order of average Z-scores obtained by the candidates at the GCE Advanced Level Examination held in the related year, and released by the



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Commissioner General of Examinations. Cut off marks, applied by the University Grants Commission, vary from year to year depending on factors such as performance of students in the given year, total number of places offered by universities and the population of each district, etc. These criteria will decide whether the student is able to enter a medical faculty or not.

If we consider the university admission opportunities distributed within the Biology Stream in Sri Lanka, the following could be noted.

In 2013, 40,253 students sat for the GCE A Level in the Biology stream; 20,215 students gained 3 Ss (ie. simple passes). Over 7,000 students (one of three who passed) were selected to the state universities. About 2,300 students gained 3 Bs and above. Approximately 50% of those who gained 3 Bs and above were selected for medicine in state universities. In 2014, 1,255 of the 7,000 (one of five) who were selected for university admissions from the Biology stream entered government medical faculties.

Comparing these figures with the UK system, which historically has many similarities with the Sri Lankan system, the minimum entry criteria in the standard medical school is 3 As (as opposed to 3 Ss in the Sri Lankan system). Of those students with 3 As, only one of five students get a chance to study medicine. For some high-ranking universities like Oxford, it could be one of 17.

### Validity of GCE A Level as entry examination for medical education

Some concerns have been expressed as to whether the GCE A Level is a valid admission criterion.

There are three broad reasons why this is so and why the A Levels should have predictive validity for medical school performance:

1. Cognitive ability – Over 90% of the MCQs in 2015 Biology paper are within the ideal level of difficulty.
2. Substantive content – GCE A Levels provide students with a broad array of facts, ideas, and theories relevant to future medical students. Analysis of the questions at the 2015 A Levels showed a substantial coverage of human biology, molecular biology, cell biology and genetics.
3. Motivation, commitment and personality – achieving high grades at the GCE A Level requires not only intellectual ability, but also motivation, commitment and personality traits that are also beneficial at medical school and for lifelong learning.

Besides the A Level examination, there are diverse selection procedures used to select applicants for

medicine. The commonality among them is to select for criteria such as high cognitive/intellectual ability, skills in practical procedures, communication skills and critical thinking, attitudes to mention a few. What evaluations can select for such attributes? Of evaluations in existence other than GCE A Levels, aptitude tests (eg. the UKCAT and the MCAT in the USA), and the newer variety of interview such as the Multiple Mini Interview (MMI), are recognised to have some predictive value, but not as high as the secondary school leaving examinations such as A Levels. Methods such as traditional interviews and letters of recommendation have been shown to be of very poor predictive validity. It is noteworthy that there are positive developments within the current Sri Lankan A Level system such as inclusion of mandatory English, IT test and the project work.

### What should be the minimum grades for entry into medical education in Sri Lanka?

In many parts of the world, educationists have observed the phenomenon called ‘grade inflation’ in exam results; ie. the grades obtained by students in successive years have become progressively higher. Due to this, at one time, the UK was considering sub-dividing the students who received A grades in their A Levels into A pluses; eg A+, A++, A+++.

The reasons for this grade inflation may be at least three fold.

1. Successive generations of students (supported by the theory of evolution) should be brighter than their previous generations. So, the results keep inflating.
2. When a similar examination has been conducted for a number of years, the later generations have more opportunity to prepare for the examination by studying the past papers.
3. Over the years, private tuition and school-level coaching of the students for A Levels have exponentially increased, and this has also contributed to the inflation of results.

The latter two of the above reasons are good explanations for the intellectual ability of a student who scored an S in the past not being the same quality as a student who gains an S in present times.

If medical education (as world over) is to select the most able students in a given generation, the first reason amply substantiates that an S (or three Ss) is not sufficient, when selecting the best among the present generation of students; ie. it is similar to the fact that what you could do with Rs.100, fifteen years ago, cannot be done with Rs.100 now.

## What then, should be the cut-off grade for medical education in Sri Lanka?

The decision regarding selection cut-off of students should be based on the baseline performance applicable to that population. The University Grants Commission (UGC) criteria of 3 S as minimum grades for entry into medical education are outdated and not realistic or suitable anymore. The current baseline performance of those who are selected to follow medicine is far higher than that, particularly due to grade inflation. With such grade inflation, the rational and logical measure should be to make the bar higher. How the UK responded was to increase the bar as 3 A-grades minimum.

On the basis of the 2013 and 2014 results in Sri Lanka quoted above, for the current Sri Lankan medical applicants, 3 Bs could be argued as the baseline, or its equivalent could be used as shown below.

We suggest that the cut off could be 3 Bs or its equivalent as determined as follows. Say grade A is scored 5, grade B scored 3, grade C - 2, and grade S - 1, 3 B grades would be 9 and the equivalent would be ABC - 10, and ABS - 9.

So the minimum entry grades for medicine could be BBB, ABC or AAS.

This could be justified, as even within the underprivileged districts, those who are getting low grades are a very small minority of outliers. For example in 2014, 30 students from Nuwara Eliya had 3 Bs and above, and 32 students were selected for medicine.

In a similar system in Malaysia, the grades for entry to medicine are BBB, ABC or AAC. It is worthwhile noting that the Malaysian system does not consider even a single S grade as an adequate qualification to study medicine.

### A Level results and admission by district quotas

The district quota system is an affirmative action based on the principle of equity. Equity recognises that for a variety of social, economic and historical reasons some are at a greater disadvantage than others, and strives to compensate them for their disadvantage. Equity recognises this uneven playing field and aims to take extra measures by giving those who are in need more than others who are not.

Affirmative actions with regards to medical school selection are not unique to Sri Lanka. Well-planned and precisely executed entry systems that favour the educationally disadvantaged are available in the developed world. For example, the US medical school admission system has mechanisms to ensure racial and ethnic representation.

In 1974, admission according to district quotas was introduced whereby places in universities were allocated in proportion to the total population of residents in such districts. However, this system had certain drawback. In

1975, a committee chaired by Pieter Keuneman had this to say. "This system was brought into operation without advance preparation and without sufficient deep study of the educational consequences and social repercussions that so widespread a departure from the cardinal principle of selection on merit would have". As a response to these comments the allocations of quota changed many times without an objective review. In 1976, 70% of places were awarded on an all island order of merit and 30% on district basis and EUPA (Educationally Underprivileged Areas). This juggling with quotas went on by different committees in 1977, 1978, 1979, 1989, 1982, 1984, 1987, until in 1991, 40% were admitted on all island merit, 55% on district quota and 5% for EUPAs.

Currently there are 13 districts identified as EUPAs and the criteria for this categorisation are not clear. It is also important to note that the all island merit quota allocation of 70% has come down to 40% in 1991 and remained at that for last 27 years. This cannot be rationalised since the allocation for all-island merit should have gradually increased when considering the grade inflation and expansion of educational facilities in the country.

In 2004, the first author presented at the Professor Nandadasa Kodagoda oration, an extensive study of the separate outcomes of admission for medicine on a merit quota of 40%, 60%, 80%, and 100%. All information for the study was obtained from the UGC and the Department of Education. The analysis showed that up to 80% of places could be allocated on the basis of merit without a single district losing all its places. Seven districts (Colombo, Galle, Kandy, Kurunegala, Vavuniya and Jaffna) gained places. These were high performing students who would have been deprived an opportunity to study medicine when the 40% merit formula was used.

From this study it appeared that it was fair and just to increase the merit quota. However, such a decision would depend on the political will of the government, a detailed review of the system and the commitment to correct the present discrimination against high performing students by using only a 40% merit quota.

Thus, the district quota system has its own pros and cons. Hence now, is the right time to re-evaluate and update the current district quota system, rather than using the same percentages which have been used for the last two and half decades, in order to achieve fair and sustainable equity in access to higher education in Sri Lanka.

### Conclusions

From arguments presented above we present a case for:

1. Revising the minimum required A Level grades for entry into medicine, in Sri Lanka to ABC, BBB or AAS.

2. Re-evaluate the current situation and increase the allocation for all Island Merit.
3. Re-examine the criteria for defining an Educationally Underprivileged Area.

We also appeal, in all fairness to extremely hard-working students in Sri Lanka to examine this new proposal we are suggesting and compare the emanating results with the selections made on the basis of the last A Level examination.

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