

What's stopping the current? Early failure increases risk for problems in later years of medical education

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Conclusion and Future Directions

Early success is a good predictor for future progress. Therefore, it is important that the educational program develops strategies to promptly identify and support failing students. Our data provide a solid ground for future investigations of underlying factors affecting student performance.

Future studies should aim to identify predetermining factors of academic success during the first two years of medical school. We plan to carry out a questionnaire study followed by interviews to collect data on socioeconomic factors, study habits and health. We will also analyse the relationship between admittance quota and performance. As a first attempt to recognize and consequently support poorly performing students early on, our program will offer student lead studying sessions.



Background

Every year, medical students face difficulties in following the curriculum on time. This affects the individual student and is an increasing problem for the university. The aim of this study was to analyse the effects of early failure on student performance in later courses.

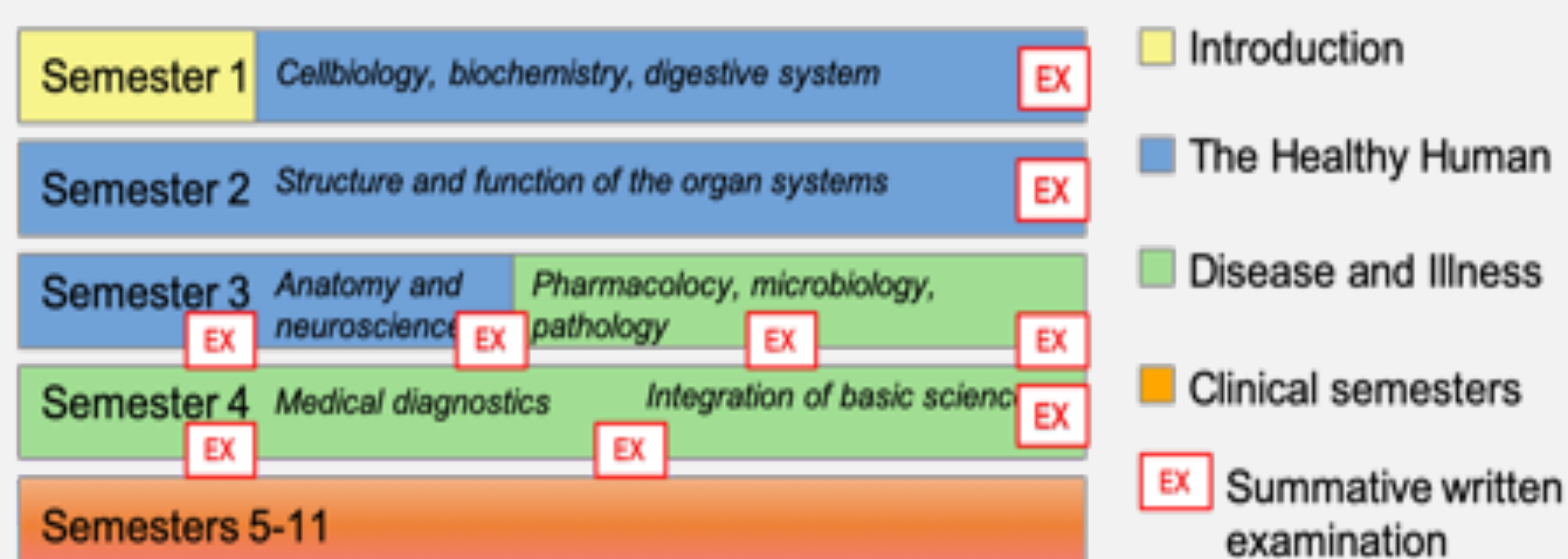


Figure 1. A schematic figure of the first two years of the curriculum.

The medical program at Karolinska Institutet comprises 11 semesters. The first two years, which focus mainly on the basic sciences, consist of six courses (Figure 1). In order to pass each course, the student needs to complete several mandatory activities as well as summative written examinations. Students who fail a course have a period of one year (corresponding to three opportunities to re-sit exams) to pass before they are blocked from continuing together with their cohort. Re-exams are generally offered four times throughout the year with different time intervals.

Methods

For nine cohorts of freshmen (n=1445, 2013-2017), we analysed university records to compare how time to completion of the first

semester affected time to completion in the following semesters. For semester 1 and 2 respectively, students were placed into one of four categories:

- 1) Completion within the duration of the semester.
- 2) Completion within 3 months following the end of the semester.
- 3) Completion before the students were stopped from continuing their studies (within 12 months), usually within the second re-exam.
- 4) Completion after block. Semester was not completed within 12 months resulting in the student being stopped from continuing studies with the original cohort.

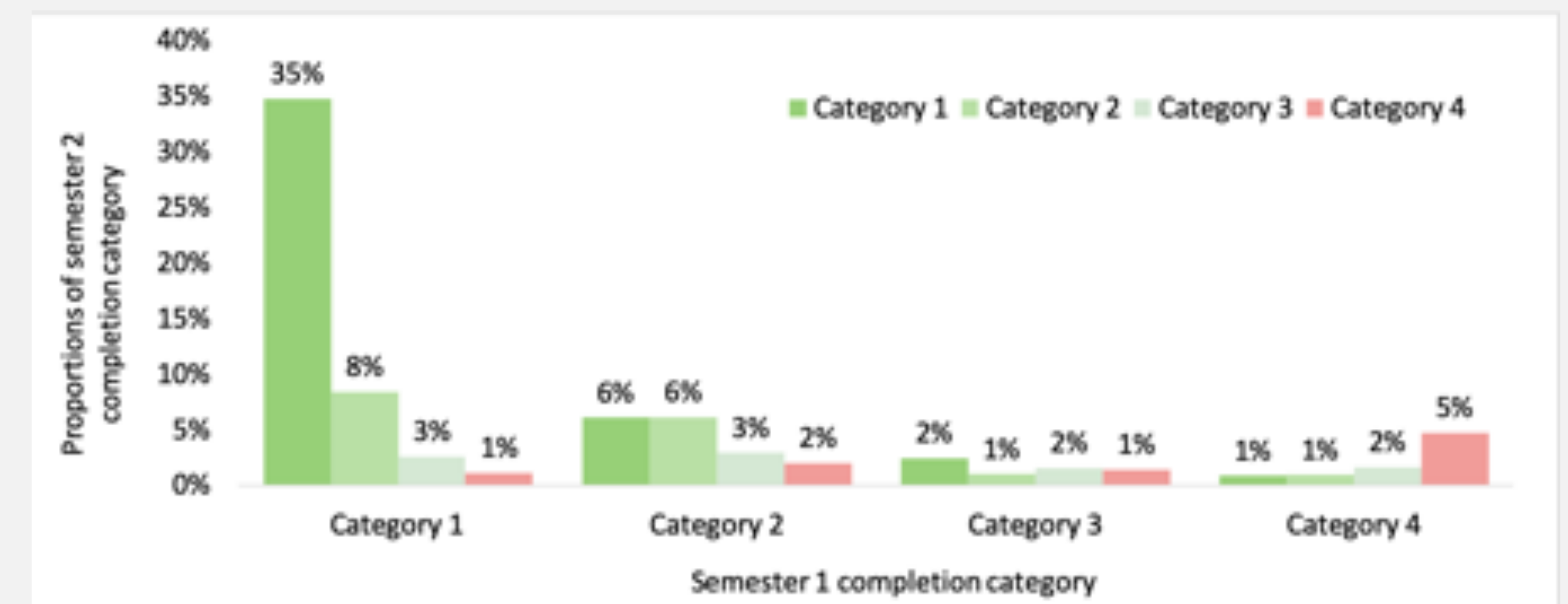


Figure 2. Students were divided into four categories based on time to completion of semester 1. The distribution of the combined results from semester 1 and 2.

Results

Only 35%±8% of the students passed both semester 1 and 2 on time (Category 1, Figure 2). However, at the start of the third semester, 66%±5% of students from the freshman cohorts were still on track (Figure 2, summary of green bars). Furthermore, cohort performance indicated that 93% out of the students in Category 1 following semester 1 placed in the same category during semester 2 (Figure 3).

The likelihood of students in Category 2, 3 and 4 following semester 1 placing in Category 4 for semester 2 was increased (11%, 17% and 47% respectively). Our data show that the later a student completes the first semester, the greater the risk of falling behind.

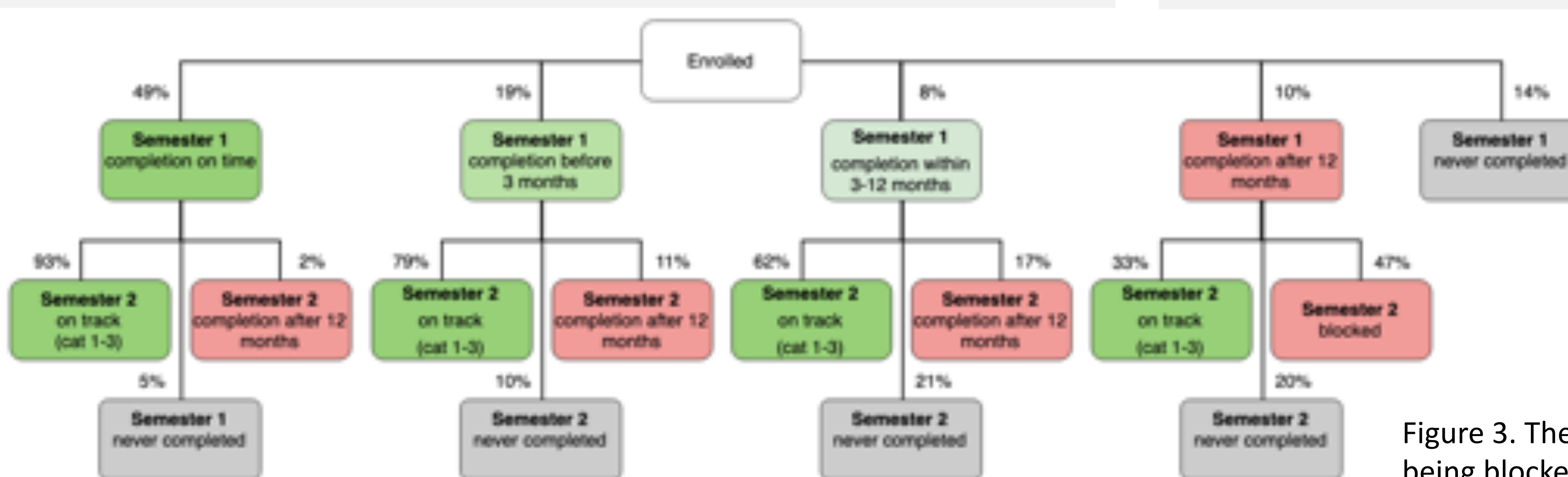


Figure 3. The likelihood of completing semester 2 on time, versus being blocked, based on performance of semester 1.

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