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The Perils of Prescribed Grade Distributions: What Every Medical Educator Should Know

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INTRODUCTION

A common practice in medical education is to create prescribed grade distributions. That is, faculty, often at the request of a department chair or dean, attempt to sort students’ grades into various levels of performance. Typically, only a certain percentage of students will receive the highest grades, another percentage of students will receive a less distinguishable grade, and so on. The practice is primarily intended to curb grade inflation; a problem that is particularly pervasive in clerkships [1], as many instructors fear providing too many high marks is inappropriate or would result in suspicion among others who may review course performance statistics. Proponents of prescribed grade distributions typically site the ability to distinguish outstanding performers as desirable and like the idea of having consistent grade distributions from year to year. Despite the perceived advantages of prescribed grade distributions, the purpose of this article was to discuss the assumptions, defensibility, and probable consequences of this practice.

PROBLEMS WITH PRESCRIBED GRADE DISTRIBUTIONS

Medical education has long been regarded as one of the most competitive disciplines to gain admission. With acceptance rates generally around 5% or less, only the most talented, highly select, and highly motivated students typically are offered admission [2]. Given this backdrop, is it not illogical to anticipate that only, say 15%, of students will receive an “Honors” grade or otherwise “perform at the highest level” once admitted into a program? This is equivalent to saying 85% of academically elite students are expected to perform at some level below the “highest level” upon entering a program. This message tends to insinuate that either the program will do something to students that causes them to demonstrate a wider variation in abilities, or the program will otherwise make such judgments regardless of variation among students’ abilities. What does this truly say about a program that chooses to adopt such a policy? What message does it convey to students?

When considering the well-known relationship between student learning and quality of instruction, there is even more confusion. Because performance measures are not only influenced by student ability, but also quality of instruction, then the assumption that only 15% of the students will “perform at the highest level” suggests there must be virtually no variation in instructional quality across courses. Thus, if the policy is applied across a department, or perhaps college-wide, then it would suggest each instructor is as gifted and effective as the next, and that each instructor’s instructional techniques result in the
same proportion of students performing at the highest level. A review of course and instructor evaluations would assuredly
dismiss this possibility.

If a program admits only the highest caliber students there
will presumably be very little differentiation among students’
performance unless instructors use assessment instruments
that are both incredibly rigorous and evidenced to be capable
of discriminating those students that learned more excellently
than others. Given most medical educators have very limited,
if any, training in psychometrics, it is difficult to imagine that
most examinations conducted in any medical school possesses
the type of targeted difficulty and psychometric qualities
necessary to justify such grading distinctions. Without such
validity evidence, a program or institution may have a difficult
time defending their grading practices. What risks might this
generate? Would this approach be legally defensible in such a
high-stakes profession?

**PROBABLE CONSEQUENCES ASSOCIATED WITH
PREScribed GRADE DISTRIBUTIONS**

Prescribed grade distributions are largely incompatible with
standards-based curricula as they primarily are based on norm-
referenced assessment approaches. Norm-referenced designs are
problematic for medical education for a number of reasons, not
the least of which is unhealthy competition. Prescribed grade
distributions make learning highly competitive for students, as each
compete for the few scare high grades awarded by their instructors.
It conveys a message to students that performing well does not
mean learning excellently; it means outperforming one’s classmates.
This type of competition can discourage student collaboration,
make students reluctant to interact and learn from one another,
and make instructors reluctant to provide individual assistance
to students in fear that other students might misconstrue their
actions as biasing the competition. Perhaps most devastating of
all, unhealthy competition can also destroy the culture of a student
body, as feelings of resentment, animosity, and jealousy may cause
some students to behave inappropriately (e.g., rude and bullying
behavior, sabotaging other students’ work, withholding educational
resources and materials, and so on). The effects of this competition
model are so significant that long after physicians enter into medical
practice many continue to inquire about their performance relative
to others on medical certification examinations [3]. In fact, the
American Board of Family Medicine has moved to no longer
reporting percentile ranks, as the purpose of such examinations is
not to measure one’s performance relative to other examinees, but
one’s performance relative to a minimum passing standard [3].

**CONCLUSION**

Competition certainly has its place in the classroom. However,
in a true and healthy learning environment, students should not
be competing against other students for a few pre-determined
number of high grades. Instead, students should be working
with other students and competing against rigorous academic
standards. Competition against academic standards provides
an opportunity to unite students and their instructors with
a common goal. This is far more likely to result in a positive
academic environment, as helping a classmate would in no way
diminish a student’s chance of success for earning the highest
grade. It is possible that this assistance could actually enhance
each student’s success [4].

If medical educators wish to distinguish the ablest learners,
then providing challenging standards with psychometrically
sound assessments is the best way to do that. With challenging
standards and robust assessments, grades will become
meaningful and defensible, and whatever percentage of students
that happen to receive the highest grades will be those who have
demonstrated performance at the highest level. This would
alleviate any need to dedicate a limited number of grades to
students based on some arbitrary threshold that is most likely
indefensible and unhealthy for the culture of the program or
institution. Thus, if instructors focus on providing excellent
instruction to challenging academic standards, they can rightly
spend their energies developing talent as opposed to wrongly
trying to sort the talent.

**REFERENCES**

1. Fazio SB, Papp KK, Torre DM, Defer TM. Grade inflation in the internal
2. AAMC. U.S. Medical School Applications and Matriculants by
   School, State of Legal Residence, and Sex, 2013. Available from:
pdf. [Last retrieved on 03 Nov 2014].
3. Royal KR, Puffer JC. Criterion-referenced examinations: Implications for the reporting and interpretation of examination
4. Hwee OH. Towards a grade-free system. The Star Online. Available from:
   http://www.thestar.com.my/News/Education/2014/03/02/
   Towards-a-gradefree-system/. [Last accessed on 03 Nov 2014].

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