

# Study shows reducing class size may be more cost-effective than most medical interventions

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Reducing the number of students per classroom in U.S. primary schools may be more cost-effective than most public health and medical interventions, according to a study by researchers at Columbia University Mailman School of Public Health and the Virginia Commonwealth University. The study indicates that class-size reductions would generate more quality-adjusted life-year gains per dollar invested than the majority of medical interventions. The findings will be published in the November issue of the *American Journal of Public Health*.

The researchers estimated the health and economic effects of reducing class sizes from 22–25 students to 13–17 students in kindergarten through grade 3 nationwide, based on an intervention tested in Project STAR (Student Teacher Achievement Ratio), a large multi-school randomized trial that began in 1985. Project STAR is considered the highest quality long-term experiment to date in the field of education.

The study shows that a student graduating from high school after attending smaller-sized classes gains an average of 1.7 quality-adjusted life-years and generates a net \$168,431 in lifetime revenue. “Higher earnings and better job quality enhance access to health insurance coverage, reduce exposure to hazardous work conditions, and provide individuals and families with the necessary resources to move out of unfavorable neighborhoods and to purchase goods and services,” says

Peter A. Muennig, MD, MPH, assistant professor of Health Policy and Management at the Mailman School. “Regardless of class size, the net effect of graduating from high school is roughly equivalent to taking 20 years of bad health off of your life.”

When targeted to low-income students, the estimated savings would increase to \$196,000 per additional graduate. “This is because low-income students seem to benefit more from the additional attention afforded by small classes,” noted Dr. Muennig. “Because we focused on a relatively expensive intervention and examined outcomes over a range of values, our results should provide a conservative framework for evaluating this and other interventions as long-term data on educational interventions become more plentiful,” he commented.

The performance of students in the U.S. has been declining relative to the performance of students in other countries. With health costs soaring and student performance falling, the United States is in jeopardy of losing its economic dominance.

The findings not only raise issues of whether investments in social determinants of health can be more cost-effective than investments in conventional medical care, “but more intriguing still, also bring up the idea that each dollar invested in education could also potentially produce other long-term returns,” observes Dr. Muennig. He notes that further analysis will refine models and produce more-precise estimates, but “these findings do point to the importance of looking more broadly at the options available for improving health outcomes—including those outside the boundaries of clinical medicine.”

Source: Columbia University

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