



Editor's Notes

WHAT IS THE THERAPEUTIC DOSE FOR HEALTH PROMOTION?

In medicine, the “therapeutic dose” is defined as the amount of medication or other form of treatment necessary to achieve the desired health effect. Therapeutic doses are determined by a combination of expert opinion and empirical research. Once the empirical dose is established, it becomes standardized and widely accepted. If you have a bacterial skin rash, your doctor will prescribe a course of antibiotics and instruct you to take a specific amount on a specific schedule. If you do not take the full course of medicine, the rash may not go away. When you take your prescription to a drugstore, they give you the full prescription. If your insurance covers medication, the insurance company pays for the full course of medicine. Neither you nor your insurance company argues about how much medicine should be provided...that's the doctor's decision.

Health promotion does not work this way...for two reasons. First, with very few exceptions, we have not established a therapeutic dose for what we do. For most of our programs, we do not know how much is required to engage someone to participate, to permanently change a health behavior, to improve a health condition, to reduce medical care costs or enhance productivity. We have opinions, but we don't really know. Second, because we do not know the therapeutic dose, employers always argue about how much they are willing to pay for health promotion programs...not because of any empirically based reasoning...they just want to pay as little as possible. An informal poll I conducted among several major health promotion vendors reveals that most employers pay somewhere between \$30 and \$60 per eligible employee per year for programs. For this amount, they expect not only to change health habits their employees have formed over decades, but also to reduce medical costs that average about \$8,000/employee/year.¹ For some reason, we accept this assignment. Are we surprised when many programs don't have much impact? What a crazy business we are in!

How much should employers budget for a health promotion program? They should budget enough to support a program that works. How much is that? We really don't know. I have not examined this question in a systematic way, but I have asked top consultants, program managers, and vendors for the modal cost of programs they have developed that consistently produce good outcomes. The amount that keeps coming up is \$200–\$250 per eligible employee per year. Interestingly, that is the budget of many of the programs that have won the C. Everett Koop Award from the Health Project.² Koop Award winners must demonstrate both health improvements and cost savings. The idea, then, is not to spend more just to have a good program; the idea is to spend the amount necessary to attract participants, change health habits, improve health, reduce medical costs, and enhance productivity.

If we knew the therapeutic dose—the program elements we need to have the desired impact—we would not have to argue about program cost. Instead, we would work with an employer to determine the desired outcome,

describe the program components required to achieve that outcome, and then provide the most cost effective way to provide those components.

We do know the therapeutic dose in a few areas. For smoking cessation, we know that 300 minutes of talk therapy produces the best outcome. Quit rates keep increasing as therapy time approaches 300 minutes, but level off after that point. We also know that brief counseling from a doctor doubles quit rates, and that providing both talk therapy and medication triples success rates.³ The most cost effective programs provide the combined therapy; they cost more per participant, but less per quitter.⁴ I suspect the same is true for many health promotion programs, but we do not have the data to draw conclusions.

We also know the therapeutic dose for HRA participation. Participation rates approach 90%+ when the incentive approaches \$200, the incentive is integrated into the health plan, the program is promoted, and management support is visible.⁵ We also know the therapeutic dose for exercise. To maintain health, adults should perform moderately intense exercise for 30 minutes five days per week or vigorous exercise for 20 minutes three days per week.⁶ To lose weight, a person probably needs to exercise 60 minutes every day.⁷ What we do not know is how much marketing, skills training, and what types of access people need to facilities to ensure they exercise for the recommended amount of time.

If we want to provide programs that attract people, change behavior, improve health, and save money, and we want to shift our negotiations with purchasers from how much they want to spend to what outcomes they want to achieve, we need to focus our thinking on providing the therapeutic dose required to achieve the desired outcomes. To think in those terms, we need to conduct the appropriate research to establish valid dose standards.

Michael O'Donnell

Michael P. O'Donnell, PhD, MBA, MPH

¹ Mercer Health and Benefits, LLC. Mercer's National Survey of Employer-Sponsored Health Plans 2007.

² The Health Project. <http://www.HealthProject.stanford.edu>. Accessed November 12, 2008.

³ US Department of Health and Human Services, Treating Tobacco Use and Dependence: 2008 Update. http://www.SurgeonGeneral.gov/tobacco/treating_tobacco_use08.pdf. Accessed November 12, 2008.

⁴ O'Donnell, MP, Roizen MF, Impact of Tobacco Treatment Method on Smoking Rates, Life Years Saved and Medical Costs. In review.

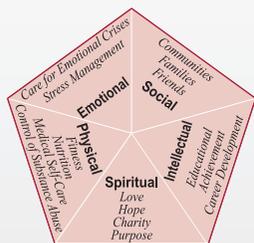
⁵ Taitel et al, Incentives and Other Factors Associated With Employee Participation in Health Risk Assessments. *Journal of Occupational and Environmental Medicine*, August 2008, 50, 8, 863-872.

⁶ Haskell WL et al, Physical Activity and Public Health: Updated Recommendations for Adults from the American College of Sports Medicine and the American Heart Association, *Circulation*, 2007; 116:1081-1093.

⁷ Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids (Macronutrients) (2002) National Academies Press Washington, DC.

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(O'Donnell, *American Journal of Health Promotion*, 1989, 3(3):5.)

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