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Tobacco Control Funding Versus Scientific Evidence

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Mueller et al.¹ reviewed tobacco control spending in 10 states and noted states varied not only in the amount of funding but also the distribution of funding across activities, and that these distributions differed from the allocations recommended in the U.S. Centers for Disease Control and Prevention (CDC) guidelines.² Among the nine tobacco control activities they listed, five are often thought to be core activities and have been scientifically tested: cessation, counter-marketing, community coalitions, school programs and enforcement. I compared the mean percent of CDC funding across states reported in Figure 1 of the Mueller et al article to the scientific evidence for that activity (Table). To estimate the later, I chose the conclusions from the Cochrane meta-analytic reviews of randomized, controlled trials (RCTs) (www.cochrane.org) for three reasons: a) RCTs are recognized in both medicine and the behavioral sciences as typically the most valid assessment of an intervention³, b) the Cochrane review is widely recognized as thorough, objective and impartial and, c) perhaps most importantly, the Cochrane uses a similar process to evaluate all five of the above activities. For cessation, I used the Cochrane analyses on NRT⁴ and on telephone counseling⁵ because these are the most commonly used pharmacological and psychosocial treatments.⁶ For community activities⁷, countermarketing⁸, and school programs⁹, I used the Cochrane analyses of these that focused on prevention of smoking onset because there is more data on youth than adults in these areas..

The most striking discrepancy between scientific evidence and amount of funding is for cessation programs. Cessation had the lowest percent of CDC funding yet had the greatest number of studies and was the only activity the Cochrane review concluded was clearly efficacious.

There are a number of possible explanations for the low funding. Some have argued that RCTs are not valid tests of tobacco control activities and that the results of RCTs indicate efficacy (outcomes under optimal conditions) but not effectiveness (outcomes under real-world conditions);¹⁰ however, these conclusions occurred only after RCT trials failed to find positive results. Other anecdotal arguments I have heard include (1) policies and prevention are more cost-effective and less-controversial than treatment, (2) funds should be spent on vulnerable youth in preference to responsible adults, (3) payments for cessation programs should come from health plans, not public health programs, (4) pharmaceutical companies are already promoting cessation and e) all smokers, even the very dependent, can quit if sufficiently motivated and, thus, cessation programs are not necessary.

Consistent with the findings in Table 1, my anecdotal observation from World (and U.S. National) Congresses on Tobacco or Health is that many tobacco control advocates assume

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community coalitions, counter-marketing, enforcement and school programs are effective and the burden of proof is on those who state they are not effective and, conversely, assume cessation treatments are not effective and the burden of proof is on those who state they are effective. In contrast, I think most scientists from other areas on looking at the evidence would state just the opposite; i.e. the burden of proof is to disprove, not prove, effectiveness of treatment.

Failure to keep close to the scientific evidence can create significant problems. For example, in the area of alcohol problems, Miller and colleagues^{11,12} have shown a similar inverse relationship between the amount of empirical evidence for interventions for alcoholism and the funding of the interventions that has become institutionalized.

The tobacco control field has been laudable in using scientific evidence to advance its goals. The results of the Mueller et al article suggests, to me, that the field now needs to step back and reexamine the mismatch between scientific evidence and its own practices.

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Table

Spending and evidence for five main CDC recommended tobacco control activities

	% of CDC minimum spent	Number of studies in Cochrane review	Cochrane review conclusions
Cessation – NRT	31%	123	“All forms of NRT are effective”. ⁴
Cessation - phone counseling		48	“Helps smokers interested in quitting”. ⁵
Community	84%	16	“Some limited support”. ⁷
Counter-marketing	77%	6	“Evidence is not strong”. ⁸
Enforcement	50%	34	“Limited evidence”. ¹³
School programs	35%	94	“Little strong evidence”. ⁹

NRT, nicotine replacement therapy