

Smoking cessation programs during pregnancy (all programs)

Literature review updated December 2014.

As part of WSIPP's research approach to identifying evidence-based programs and policies, WSIPP determines "what works" (and what does not work) to improve outcomes using an approach called meta-analysis. For detail on our methods, see our [Technical Documentation](#). At this time, WSIPP has not yet calculated benefits and costs for this topic.

Program Description: This group of programs includes counseling cessation programs for pregnant smokers which typically involved face-to-face counseling, although four studies examined exclusively telephone counseling. Motivational interviewing is the most common type of counseling in these studies, and programs typically also offer self-help materials to encourage smoking cessation.

Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated			ES	p-value
			ES	SE	Age	ES	SE	Age		
Regular smoking	18	3186	-0.276	0.075	25	n/a	n/a	n/a	-0.276	0.001

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

Citations Used in the Meta-Analysis

- Cook, C., Ward, S., Myers, S., & Spinnato, J. (1995). A prospective, randomized evaluation of intensified therapy for smoking reduction in pregnancy. *American Journal of Obstetrics and Gynecology: Part 2*, 172(1), 290.
- Dornelas, E.A., Magnavita, J., Beazoglou, T., Fischer, E.H., Oncken, C., Lando, H., Greene, J., Barbagallo, J., Stepnowski, R., & Gregonis, E. (2006). Efficacy and cost-effectiveness of a clinic-based counseling intervention tested in an ethnically diverse sample of pregnant smokers. *Patient Education and Counseling*, 64, 342-349.
- Ershoff, D.H., Mullen, P.D., & Quinn, V.P. (1989). A randomized trial of a serialized self-help smoking cessation program for pregnant women in an HMO. *American Journal of Public Health*, 79(2), 182-187.
- Ershoff, D.H., Quinn, V.P., Boyd, N.R., Stern, J., Gregory, M., & Wirtschaffer, D. (1999). The Kaiser Permanente prenatal smoking cessation trial: when more isn't better, what is enough?. *American Journal of Preventive Medicine*, 17(3), 161-168.
- Hartmann, K. E., Thorp, J. M. J., Pahel-Short, L., & Koch, M. A. (1996). A randomized controlled trial of smoking cessation intervention in pregnancy in an academic clinic. *Obstetrics and Gynecology*, 87(4), 621-626.
- McBride, C. M. (1999). Prevention of relapse in women who quit smoking during pregnancy. *American Journal of Public Health*, 89(5), 706-711.

- Patten, C.A., Windsor, R.A., Renner, C.C., Enoch, C., Hochreiter, A., Nevak, C., Smith, C.A., ... Brockman, T. (2009). Feasibility of a tobacco cessation intervention for pregnant Alaska Native women. *Nicotine and tobacco research*, 12 (2), 79-87.
- Pbert, L., Ockene, J.K., Zapka, J., Ma, Y., Goins, K.V., Oncken, C., & Stoddard, A.M. (2004). A community health center smoking-cessation intervention for pregnant and postpartum women. *American Journal of Preventive Medicine*, 26(5), 377-385.
- Rigotti, N.A., Park, E.R., Regan, S., Chang, Y., Perry, K., Loudin, B., & Quinn, V. (2006). Efficacy of Telephone Counseling for Pregnant Smokers. *Obstetrics & Gynecology*, 108(1), 83-92.
- Secker-Walker, R.H., Solomon, L.J., Flynn, B.S., Skelly, J.M., Lepage, S.S., Goodwin, G.D., & Mead, P.B. (1994). Individualized smoking cessation counseling during prenatal and early postnatal care. *American Journal of Obstetrics and Gynecology*, 171(5), 1347-1355.
- Secker-Walker, R.H., Solomon, L.J., Geller, B.M., Flynn, B.S., Worden, J.K., Skelly, J.M., & Mead, P.B. (1997). Modeling smoking cessation: exploring the use of a videotape to help pregnant women quit smoking. *Women & Health*, 25(1), 23-35.
- Secker-Walker, R.H., Solomon, L.J., Flynn, B.S., Skelly, J.M., & Mead, P.B. (1998). Reducing smoking during pregnancy and postpartum: physician's advice supported by individual counseling. *Preventive Medicine*, 27(3), 422-430.
- Sexton, M., & Hebel, J.R. (1984). A clinical trial of change in maternal smoking and its effect on birth weight. *JAMA*, 251(7), 911-915.
- Stotts, A.L., Diclemente, C.C., & Dolan-Mullen, P. (2002). One-to-one: A motivational intervention for resistant pregnant smokers. *Addictive Behaviors*, 27(2), 275-292.
- Stotts, A.L., DeLaune, K.A., Schmitz, J.M., & Grabowski, J. (2004). Impact of a motivational intervention on mechanisms of change in low-income pregnant smokers. *Addictive Behaviors*, 29(8), 1649-1657.
- Windsor, R.A., Cutter, G., Morris, J., Reese, Y., Manzella, B., Bartlett, E.E., Samuelson, C., & Spanos, D. (1985). The effectiveness of smoking cessation methods for smokers in public health maternity clinics: a randomized trial. *American Journal of Public Health*, 75(12), 1389-1392.
- Windsor, R.A., Lowe, J.B., Perkins, L.L., Smith-Yoder, D., Artz, L., Crawford, M., Amburgy, K., & Boyd, N.R.J. (1993). Health education for pregnant smokers: its behavioral impact and cost benefit. *American Journal of Public Health*, 83(2), 201-206.
- Windsor, R., Woodby, L., Miller, T., & Hardin, M. (2011). Effectiveness of Smoking Cessation and Reduction in Pregnancy Treatment (SCRIPT) methods in Medicaid-supported prenatal care: Trial III. *Health Education & Behavior*, 38(4), 412-422.

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