

Cost sharing: (b) High-Deductible Health Plans (moderate to high deductible levels, with or without HSAs), low-income patient population

Health Care: Health Care System Efficiency

Literature review updated November 2015.

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: These results are for low-income patients in High-Deductible Health Plans (HDHPs) versus those in traditional plans. In this case, the HDHPs have moderate- to high-deductibles (at least a \$500 individual deductible). These plans may or may not include health reimbursement arrangements (HRA) or a health savings account (HSA). Preventive services refer to cancer screening (breast, cervical, colorectal). Low-income status is determined by residence in low-income areas.

Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect size and standard error			Unadjusted effect size (random effects model)	
			ES	SE	Age	ES	p-value
Emergency department visits*	1	5854	-0.046	0.046	33	-0.046	0.319
Emergency department visits (higher-severity)*	1	5854	-0.245	0.103	33	-0.245	0.017
Emergency department visits (lower-severity)*	1	5854	-0.037	0.051	33	-0.037	0.471
Preventive services	6	29449	-0.031	0.012	33	-0.031	0.008

*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

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

- Haviland, A., Sood, N., McDevitt, R., Marquis, M. (2011). How Do Consumer-Directed Health Plans Affect Vulnerable Populations?. *Forum for Health Economics & Policy*, 14, 2.
- Wharam, J.F., Graves, A.J., Landon, B.E., Zhang, F., Soumerai, S.B., & Ross-Degnan, D. (2011). Two-year trends in colorectal cancer screening after switch to a high-deductible health plan. *Medical Care*, 49(9), 865-71.

Wharam, J.F., Graves, A.J., Zhang, F., Soumerai, S.B., Ross-Degnan, D., & Landon, B. E. (2012). Two-year trends in cancer screening among low socioeconomic status women in an HMO-based high-deductible health plan. *Journal of General Internal Medicine*, 27 (9), 1112-9.

Wharam, J.F., Zhang, F., Landon, B.E., Soumerai, S.B., & Ross-Degnan, D. (2013). Low-socioeconomic-status enrollees in high-deductible plans reduced high-severity emergency care. *Health Affairs*, 32(8), 1398-406.

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