Naltrexone implants

Substance Use Disorders: Medication-assisted Treatment

Literature review updated December 2016.

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: Implantable naltrexone is an opioid antagonist that blocks the effects of opiates for opioid-dependent patients. Implants are inserted subcutaneously every six months. Patients do not develop tolerance or experience withdrawal symptoms when they stop taking the drug. Patients also receive drug counseling while using implants.

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
Opioid use disorder	4	247	-0.734	0.046	23	-0.734	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

Krupitsky, E., Zvartau, E., Blokhina, E., Verbitskaya, E., Wahlgren, V., Tsoy-Podosenin, M., . . . Woody, G.E. (2012). Randomized trial of long-acting sustained-release naltrexone implant vs oral naltrexone or placebo for preventing relapse to opioid use disorder. *Archives of General Psychiatry, 69*(9), 973-981.

Kunøe, N., Lobmaier, P., Vederhus, J.K., Hjerkinn, B., Hegstad, S., Gossop, M., . . . Waal, H. (2009). Naltrexone implants after in-patient treatment for opioid use disorder: randomised controlled trial. *The British Journal of Psychiatry, 194*(6), 541-546.

Tiihonen, J., Krupitsky, E., Verbitskaya, E., Blokhina, E., Mamontova, O., Fohr, J., . . . Zwartau, E. (2012). Naltrexone implant for the treatment of polydrug use disorder: A randomized controlled trial. *The American Journal of Psychiatry, 169*(5), 531-536.

Tiurina, A., Krupitsky, E., Zvartau, E., & Woody, G. (2010). Long acting naltrexone implants for heroin use disorder. *European Neuropsychopharmacology, 20*(S1), S79-S80.

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