

Using cost-effectiveness analysis to prioritize policy and programmatic approaches to physical activity promotion and obesity prevention in childhood

According to the US Department of Health and Human Services guidelines, children in the United States are unlikely to get enough exercise. Secondary schools tend to provide even fewer opportunities for children to engage in physical activity. Several studies have identified successful school-based interventions to increase physical activity and prevent obesity in American children. The aim of this study is to determine how cost-effective these approaches may be on a large-scale using a microsimulation model. The interventions studied were:

- Active Physical Education: “a state-level policy requiring that 50% of time during physical education class be of moderate-to-vigorous activity intensity in classes for children enrolled in public elementary and middle schools”
- Active Recess: “a district-level, voluntary programme increasing physical activity through different strategies including structured physical activities, the installation of playground markings, and/or the provision of portable play equipment implemented at recess, during the school day, within public elementary schools”
- Active School Day: “a district-level policy requiring schools to provide opportunities for at least 150 min of physical activity for children in public elementary and middle schools during the school day via strategies that include active PE and active recess, classroom activity breaks, or other evidence-based strategies”
- Healthy Afterschool: “a state policy that establishes a voluntary recognition programme for state-administered 21st Century Community Learning Centre Afterschool Programmes (CCLC) serving children 5–11 years of age”
- New Afterschool Programmes: “Title I federal funding is made available to state departments of education to provide children 5–11 years of age with afterschool programmes that offer daily 2-hours supervised sessions that include physical activity (80 min), academic enrichment activities, homework assistance, and a snack at no cost to families following the FitKid model.”
- Hip Hop to Health, Jr: “a regulatory policy establishing a mandatory structured physical activity promotion training requirement for licensed ECE programmes”

Of these programmes, the New Afterschool programme seems to be most effective (preventing over 109,000 children from developing obesity) and least expensive (saving 4.6 billion dollars over a decade) due to the “more efficient use of labour for childcare in the afterschool hours.” For the rest of the interventions, costs were between 16 cents per MET-hour/day (Active Recess) to 3.14 dollars per MET-hour/day (Healthy Afterschool).

Reference: Craddock AL, Barrett JL, Kenney EL, Giles CM, Ward ZJ, Long MW, Resch SC, Pipito AA, Wei ER, Gortmaker SL. Using cost-effectiveness analysis to prioritize policy and programmatic approaches to physical activity promotion and obesity prevention in childhood. *Prev Med.* 2017 Feb;95 Suppl:S17-S27. doi: 10.1016/j.ypmed.2016.10.017.