



GUIDE TO EVIDENCE-BASED PREVENTION

Evidence inventory

APRIL 2016

Strategies to increase physical activity and prevent obesity, cardiovascular disease and diabetes

Sources and outcomes

This inventory lists strategies to increase physical activity from:

- **The Guide to Community Preventive Services (Community Guide):** Systematic reviews from the U.S. Centers for Disease Control and Prevention (CDC)
- **U.S. Preventive Services Task Force (USPSTF) Recommendations:** Systematic reviews from the Agency for Healthcare Research and Quality (AHRQ)
- **What Works for Health:** Evidence registry from County Health Rankings and Roadmaps (CHR&R), a project of the University of Wisconsin Population Health Institute and the Robert Wood Johnson Foundation

Strategies were assessed for their effectiveness in achieving one or more of the following outcomes:*

- Increased physical activity
- Improved physical fitness
- Reduced sedentary screen time
- Improved weight status

- Improved health outcomes
- Improved mental health
- Increased mobility
- Improved attainment of short-term health goals
- Increased access to places for physical activity
- Increased active transportation
- Increased pedestrian and cyclist safety
- Reduced traffic speed
- Increased use of public transit
- Increased knowledge about exercise and physical activity and the associated benefits
- Improved attitudes and beliefs about physical activity
- Enhanced behavioral skills to help individuals incorporate physical activity into their daily routines
- Improved delivery of weight management screening and treatment by providers
- Improved diabetes and cardiovascular disease risk factors (e.g. overweight, high blood glucose, high blood pressure and abnormal lipid profile)
- Reduction in new-onset diabetes

*Expected outcomes listed come from one or more of the sources analyzed in the inventory. Outcomes from What Works for Health refer to strength of evidence for "expected beneficial outcomes" only.

Recommendation levels key

Community Guide (CDC)	What Works for Health (CHR&R)	U.S. Preventive Services Task Force (AHRQ)
Recommended	Scientifically Supported	Grade A (recommended; high certainty of benefit)
Insufficient Evidence	Some Evidence	Grade B (recommended; moderate certainty of benefit)
Recommended Against	Expert Opinion	Grade C (recommended selectively; moderate certainty of small benefit)
	Insufficient Evidence	I Statement (insufficient evidence)
	Mixed Evidence	Grade D (recommended against; moderate certainty of harm or no net benefit)
	Evidence of Ineffectiveness	

Color key

Stronger evidence of effectiveness



Likely to decrease disparities key

- ★ The Community Guide and/or What Works for Health have indicated that the strategy is likely to decrease disparities (including racial/ethnic, socioeconomic, geographic or other disparities) based upon the best available evidence.

Color key

Stronger
evidence of
effectiveness



Policy or systems change	Program or campaign	Clinical preventive service	Likely to decrease disparities	CHR&R	CDC	AHRQ
				What Works for Health Accessed April 2016**	Community Guide Accessed April 2016**	U.S. Preventive Services Task Force (USPSTF) Recommendations Accessed April 2016**

Interventions with a primary focus on physical activity

1. Community-scale urban design land use policies				Not directly addressed, some overlap with #3, 5, 6, 7, 8 and 15	Recommended (2004)	Not addressed
2. Street-scale urban design land use policies				Not directly addressed, some overlap with #3, 4, 6, 8 and 15	Recommended (2004)	Not addressed
3. Mixed-use development				Scientifically supported (2016)	Not directly addressed, some overlap with #1 and #2	Not addressed
4. Streetscape design				Scientifically supported (2015)	Not directly addressed, some overlap with #2	Not addressed
5. Zoning regulations for land use policy				Scientifically supported (2015)	Not directly addressed, some overlap with #1	Not addressed
6. Traffic calming				Scientifically supported (2013)	Not directly addressed, some overlap with #1 and #2	Not addressed
7. Bike and pedestrian master plans				Some evidence (2015)	Not directly addressed, some overlap with #1 and #11	Not addressed
8. Green space and parks			★	Some evidence (2015)	Not directly addressed, some overlap with #1 and #2	Not addressed
9. Joint use agreements (also referred to as "shared use agreements")			★	Some evidence (2015)	Not directly addressed, some overlap with #11	Not addressed
10. Transportation and travel policies and practices				Not directly addressed, some overlap with #33	Insufficient evidence (2004)	Not addressed
11. Creation of or enhanced access to places for physical activity combined with informational outreach activities				Scientifically supported (2015)	Recommended (2001)	Not addressed
12. Obesity prevention and control worksite programs				Scientifically supported (2014)	Recommended (2007)	Not addressed
13. Point-of-decision prompts to encourage use of stairs				Scientifically supported (2015)	Recommended (2005)	Not addressed
14. Active recess				Scientifically supported (2015)	Not addressed	Not addressed

**These sources are periodically updated, including the evidence ratings and the disparity ratings. Year in parentheses is year review was published.

Note: Click on bold, blue column header above (What Works for Health, Community Guide and USPSTF) for a description and outcomes assessed for each strategy.

	Policy or systems change	Program or campaign	Clinical preventive service	Likely to decrease disparities	CHR&R What Works for Health Accessed April 2016**	CDC Community Guide Accessed April 2016**	AHRQ U.S. Preventive Services Task Force (USPSTF) Recommendations Accessed April 2016**
15. Safe routes to schools					Scientifically supported (2015)	Not directly addressed, some overlap with #1 and #2	Not addressed
16. Multi-component school-based obesity prevention interventions					Scientifically supported (2014)	Not directly addressed, some overlap with #40 and #41	Not addressed
17. Nutrition and physical activity interventions in preschool and childcare					Scientifically supported (2015)	Not addressed	Not addressed
18. Behavioral interventions that aim to reduce recreational sedentary screen time among children					Scientifically supported (2015)	Recommended (2014)	Not addressed
19. Multi-component workplace supports for active commuting					Some evidence (2015)	Not addressed	Not addressed
20. Financial rewards for employee healthy behavior					Some evidence (2014)	Included in obesity prevention and control worksite programs (see #12)	Not addressed
21. Open streets (select streets are temporarily closed to motorized traffic for community activities)					Expert opinion (2016)	Not addressed	Not addressed
22. Multi-component obesity prevention interventions					Scientifically supported (2014)	Not addressed	Not addressed
23. Individually-adapted health behavior change programs					Scientifically supported (2014)	Recommended (2001)	Not addressed
24. Social support interventions in community settings					Scientifically supported (2014)	Recommended (2001)	Not addressed
25. Enhanced school-based physical education					Scientifically supported (2014)	Recommended (2013)	Not addressed
26. Activity programs for older adults					Scientifically supported (2015)	Not addressed	Not addressed
27. Community fitness programs					Scientifically supported (2015)	Not addressed	Not addressed
28. Physically active classrooms					Scientifically supported (2015)	Not addressed	Not addressed
29. Walking school buses					Scientifically supported (2015)	Not addressed	Not addressed
30. Community-wide physical activity campaigns					Some evidence (2014)	Recommended (2001)	Not addressed
31. Extracurricular activities for physical activity					Some evidence (2015)	Not addressed	Not addressed
32. Homework or extra credit for physical education class					Some evidence (2015)	Not addressed	Not addressed

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Stronger
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33. Individual incentives for public transportation					Some evidence (2014)	Not directly addressed, some overlap with #10	Not addressed
34. Community weight loss challenges					Expert Opinion (2015)	Not addressed	Not addressed
35. Open gym time					Expert opinion (2015)	Not addressed	Not addressed
36. Recreational sports leagues for adults					Expert opinion (2015)	Not addressed	Not addressed
37. Family-based social support for physical activity					Expert opinion (2014)	Insufficient evidence (2001)	Not addressed
38. College-based physical education and health education					Insufficient evidence (2014)	Insufficient evidence (2001)	Not addressed
39. Stand-alone mass media campaigns for physical activity					Insufficient evidence (2015)	Insufficient evidence (2010)	Not addressed
40. Classroom-based health education focused on providing information					Not directly addressed, some overlap with #16	Insufficient evidence (2000)	Not addressed
41. Obesity prevention and control school-based programs					Not directly addressed, some overlap with #16	Insufficient evidence (2003)	Not addressed
42. Prescriptions for physical activity					Scientifically supported (2015)	Not addressed	Not addressed
Interventions with a primary focus on obesity, cardiovascular disease or diabetes							
43. Combined diet and physical activity promotion programs to prevent type 2 diabetes among people at increased risk (including the Diabetes Prevention Program)					Not addressed	Recommended (2014)	Not directly addressed, some overlap with #49
44. Provider-oriented obesity prevention and control interventions (provider education, feedback, reminders, education with a client intervention, multicomponent interventions and multicomponent interventions with client interventions)					Not addressed	Insufficient Evidence (multiple reviews 2007-2008)	Not addressed
45. Technology-supported multicomponent coaching or counseling interventions to reduce weight or maintain weight loss					Not addressed	Recommended (2009)	Not directly addressed, some overlap with #47

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46. Healthful diet and physical activity for cardiovascular disease prevention in adults with cardiovascular risk factors: Behavioral counseling					Not addressed	Not addressed	Grade B: Recommended, moderate benefit (2014)
47. Obesity in adults: Screening and management					Not addressed	Not directly addressed, some overlap with #45	Grade B: Recommended, moderate benefit (2012)
48. Obesity in children and adolescents: Screening					Not addressed	Not addressed	Grade B: Recommended, moderate benefit (2010)
49. Abnormal blood glucose and type 2 diabetes mellitus: Screening					Not addressed	Not directly addressed, some overlap with #43	Grade B: Recommended, moderate benefit (2015)
50. Healthful diet and physical activity for cardiovascular disease prevention in adults: Behavioral counseling					Not addressed	Not addressed	Grade C: Recommended selectively (2012)

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Abbreviations

- **CDC:** U.S. Centers for Disease Control and Prevention
- **CHR&R:** County Health Rankings and Roadmaps (a project of the University of Wisconsin Population Health Institute and the Robert Wood Johnson Foundation)
- **AHRQ:** Agency for Healthcare Research and Quality

Key additional resources — Reports and recommendations

- **Making the Case to Stakeholders: Linking Policy and Environmental Strategies to Health Outcomes** (YMCA of the USA, 2011): Guide to scientific evidence supporting strategies focusing on changing policies, systems and environments to increase healthy behaviors
- **U.S. National Physical Activity Plan** (National Physical Activity Plan Alliance, 2016): Plan document with policies, programs and initiatives designed to increase physical activity in all segments of the U.S. population
- **Interventions for preventing obesity in children** (Cochrane, 2011): Large review of childhood obesity interventions and outcomes
- **Ohio's plan to prevent and reduce chronic disease: 2014-2018** (Ohio Chronic Disease Collaborative, 2014): Plan document with strategies and objectives to reduce tobacco use and other chronic disease risk factors

Key additional resources — Searchable databases and interactive tools

- **Community Health Advisor:** Estimates impact of several Community Guide physical activity recommendations on obesity prevalence, diabetes, cardiovascular disease, deaths, healthy years and medical costs
- **Center for Training and Research Translation:** Interactive tool to find evidence-based, healthy lifestyle interventions, with additional information on implementation
- **CDC Community Health Improvement Navigator Database of Interventions:** Searchable database for evidence-based interventions across four action areas- socioeconomic factors, physical environment, healthy behaviors and clinical care



GUIDE TO EVIDENCE-BASED PREVENTION

In addition to this publication, HPIO has developed a series of tools that are posted on the HPIO website, including **Navigating Sources of Evidence**, a guide to help policymakers, community health improvement planners and philanthropy to find prevention strategies that have been carefully evaluated and found to be effective.

www.hpio.net/tools/health-policy-tools/guide-to-evidence-based-prevention



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