Interventions for Worksite Health Promotion: Evidence and implications for public health

Review on which this evidence summary is based:

Review Focus

P Adult employees
I Assessment of Health Risks with Feedback (AHRF), or AHRF Plus which includes assessment of health risk and feedback combined with at least one of the following interventions: individual and/or group health education (>1 hour in duration AND at more than one time), enhanced access to physical activity, nutrition and medical care, or incentives/competitions
C “Usual care”
O Primary Outcomes: behavioral outcomes (alcohol use, dietary behaviors, physical activity, seatbelt use, tobacco use), physiologic outcomes (blood pressure, body composition, cholesterol) and indicators of aggregated effects (health risk estimate, healthcare service use, and absenteeism)

Review Quality Rating: 10 (strong) Details on the methodological quality are available here.

Considerations for Public Health Practice

Conclusions from Health Evidence

- This well-done review is based on 86 primary studies of varying methodological quality and research designs
- There is evidence demonstrating AHRF Plus has a meaningful impact on: reducing tobacco use, improving smoking cessation, increasing physical activity, and decreasing morbidity and mortality.
- Evidence suggests that AHRF plus and AHRF alone have no impact on reducing cholesterol, reducing blood pressure, reducing high-risk fat intake, improving fruit and vegetable consumption and improving overall risk status.

*This evidence summary includes only data that compares the intervention to comparison groups, and only outcomes where data are reported.

General Implications

- Overall findings suggest that public health should support workplace health promotion programs to included AHRF plus instead of AHRF alone for:
  - reducing tobacco use and promoting smoking cessation
  - increasing physical activity
  - decreasing morbidity and mortality
- Due to insufficient evidence of effectiveness, at this time public health should not support AHRF plus or AHRF alone for:
  - reducing cholesterol
  - decreasing blood pressure
  - change in overall risk status for chronic diseases

Evidence and Implications

Evidence points in order of strength of evidence (within each category of outcomes: behavioural, physiologic and aggregated outcomes)

What’s the evidence? • Implications for practice and policy

Assessment of Health Risks with Feedback combined with additional interventions (AHRF Plus) (51 studies) VS. Assessment of Health Risks with Feedback (AHRF alone) (32 studies)

Behavioural Outcomes (40 studies)

Tobacco Use (AHRF plus 30 studies, AHRF alone 21) • Public health should implement AHRF plus that
<table>
<thead>
<tr>
<th>Studies</th>
<th>Compared to AHRF alone, AHRF plus had a small statistically significant median incremental increase in tobacco cessation of 3.8% points (IQI=1.5% to 11.0% points), and a small to large statistically significant relative increase of 49% (IQI=15.0% to 169%) (11 studies with 15 study arms)</th>
<th>support tobacco cessation and tobacco reduction. AHRF plus should be implemented over AHRF alone.</th>
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<tbody>
<tr>
<td></td>
<td>Compared to AHRF alone, AHRF plus had very small but consistent statistically significant incremental reductions in tobacco use prevalence, with a median absolute change of -1.5% points (IQI=-3.2 to -0.8% points) and a small statistically significant median relative change -3.4% (IQI=-12.7% to -1.7%)(14 study arms in 10 studies)</td>
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<td>No impact: AHRF alone for tobacco reduction compared to control group (3 studies)</td>
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<td>Physical Activity (AHRF plus 18 studies, AHRF alone 14 studies)</td>
<td>Compared to AHRF alone, AHRF plus had a small to moderate statistically significant relative increase in physical activity of 24.6% (range 5.4% to 47.9%) (4 study arms)</td>
<td>Public health should implement AHRF plus that support employees to increase physical activity AHRF plus should be implemented over AHRF alone.</td>
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<td>Dietary behaviors (AHRF plus 14 studies, AHRF alone 11 studies)</td>
<td>No impact: AHRF plus compared to AHRF alone for reducing high-risk fat intake (6 study arms in 5 studies), and self-reported fruit and vegetable consumption (8 study arms in 6 studies).</td>
<td>Public health should not rely on AHRF plus or AHRF alone to increase consumption of fruit and vegetable and decrease high-risk fat intake among employees.</td>
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<td>Physiologic Outcomes (41 studies)</td>
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<td>Blood pressure (BP)(AHRF plus 31 studies, AHRF alone 15 studies)</td>
<td>No impact: When comparing AHRF plus to AHRF alone to decrease systolic and diastolic BP the incremental reduction of the AHRF plus intervention was not statistically significant. (6 study arms in 5 studies).</td>
<td>Public health should not rely on AHRF plus or AHRF alone to improve blood pressure as the intervention does not produce a meaningful effect.</td>
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<td>Cholesterol (AHRF plus 36 study arms from 27 studies, AHRF alone 16 studies)</td>
<td>No impact: AHRF plus compared to AHRF alone, for total cholesterol, high-density lipoprotein (HDL) cholesterol</td>
<td>Public health should not rely on AHRF plus or AHRF alone to improve measures of cholesterol as the interventions do not produce a meaningful effect.</td>
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<td>Aggregated Outcomes (23 studies)</td>
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<td>Morbidity and Mortality (AHRF plus 1 study, n=40 000, No studies for AHRF alone)</td>
<td>When compared to control group, the AHRF Plus was associated with a 10.2% reduction in coronary artery disease (p=0.07) and a 5.3% reduction in deaths (all causes) (p=0.04), a decrease in self-reported injuries during work (-1.2 and -.02 injuries in two study arms) and a decrease in short-term disability (-4.5 days).</td>
<td>Public health should support AHRF plus as a strategy to decrease overall morbidity and mortality of employees. As this finding is from one large scale study, public health may want to review the original study for more detail about the specific components of the intervention that were effective.</td>
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<tr>
<td>Risk Status (AHRF plus 21 study arms from 16)</td>
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<td>Public health should not rely on AHRF plus or</td>
</tr>
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</table>
studies, AHRF alone 11 studies

- **No impact**: AHRF plus and AHRF alone for overall change in risk status for cardiovascular disease, cancer, diabetes, general risk

| AHRF alone to significantly affect improvements in risk status for chronic diseases. |

**Legend**: P – Population; I – Intervention; C – Comparison group; O – Outcomes; CI – Confidence Interval; OR – Odds Ratio; RR – Relative Risk

IQI – Interquartile interval **For definitions see the healthevidence.org glossary at http://www.healthevidence.org/glossary.aspx

**Why this issue is of interest to public health in Canada:**

According to the World Health Organization, the workplace is a priority setting for health promotion. Practices that support improving, maintaining or enhancing the health of population groups and the promotion of healthier lifestyles and chronic disease prevention are priorities for public health in Canada. Safe, healthy and supportive working environments and conditions directly contribute to the health and wellbeing of workers, and subsequently the health of their families, communities and society (WHO). Workplace wellness not only influences the health of individuals, but it affects entire organizations, and many organizations recognize that a healthy, qualified, and motivated workforce is necessary for the organization’s success. Eating well, staying active and maintaining a healthy weight are essential to good health and important health behaviors to promote at a population level. The benefits of workplace health promotion include reduced turnover and absenteeism, improved morale and company culture, increased productivity and job satisfaction, fewer workplace injuries and increased ability to cope with stress and change.


*Other quality reviews on this topic are available on [www.healthevidence.org]*

**Suggested citation:**


This evidence summary was written to condense the work of the authors of the review referenced on page one. The intent of this summary is to provide an overview of the findings and implications of the full review. For more information on individual studies included in the review, please see the review itself.

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