Creating Healthy Workplaces Series

Reducing Prolonged Sitting

*Findings from Stand Up Victoria*

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Evidence review - 2010

- Population groups that are most at risk of prolonged sitting include those working in offices, transportation, and highly mechanised trades.

- Identified best practice approaches to addressing prolonged sitting in the workplace

Healy et al., 2012
Intervention development

- Systematic, evidence-guided, comprehensive

Multiple influences
Participatory approach
Strong evaluation framework

Neuhaus et al., 2014 IJBNPA
Key intervention messages

**Stand Up**
- Reduce the length of sitting bouts, increase standing

**Sit Less**
- Reduce total workplace sitting time & the number of sitting bouts

**Move More**
- Increase moving time

*Make changes throughout the day (in and out of the workplace)*
Management consultation
Team champion training
Staff information session
Management emails to staff

Staff information session
Written material
Individual coaching
Support phone calls
Self-monitoring tools

Organisational
Individual

Stand Up, Sit Less, Move More

Physical environment

Stand Up Australia
Stand Up Victoria

- Cluster-RCT in one organisation
- Assessments @ baseline, 3-months, 12 months
  - activPAL & GT3X+, fasting blood, questionnaire
- Cost-effectiveness analysis

CIs: David Dunstan, Genevieve Healy, Neville Owen, Elizabeth Eakin, Anthony LaMontagne, Marj Moodie
The specific aims of *Stand Up Victoria* were to:

- **Evaluate the effectiveness of a multi-component workplace intervention** on workplace sitting time (primary outcome);

- **Determine the impact of the intervention on other activity outcomes** (prolonged sitting, standing and stepping at work; sitting, standing and stepping across the whole day);

- Determine the impact of the intervention on health- and work-related outcomes;

- Identify the factors that mediate and moderate intervention impacts;

- Assess intervention cost-effectiveness; and,

- Evaluate the acceptability of the intervention, and the barriers and facilitators of change.
Stand Up Victoria – Partner Organisation

- Geographically separate sites (>1km)
- Metropolitan & regional
- Not currently delivering a physical activity intervention
- Desk based work
# Measures

<table>
<thead>
<tr>
<th>Behaviour / cost effectiveness</th>
<th>Health</th>
<th>Work / environment</th>
</tr>
</thead>
</table>
| • Sitting, standing, moving time  
  • Postural transitions  
  • MVPA | Anthropometric  
  • Height, weight, waist circumference  
  • Body composition (% fat, fat-free mass) | • Productivity  
  • Presenteeism  
  • Absenteeism  
  • Work performance |
| Diet, smoking | Cardio-metabolic  
  • Glucose, cholesterol, triglycerides, insulin*  
  • Blood pressure | • Work environment  
  • Workstation utilisation & acceptability |
| Health related quality of life | Musculoskeletal | • Preferences, strategies, perceived norms |
| Health care utilisation | Stress-related symptoms, eyestrain | Employment status |
| Adverse events | Health history | |

- **Ergonomic outcomes**
- **Public health outcomes**
Who was involved?

- 14 worksites, 231 participants
  - 136 intervention; 95 control
- 5 sites large (>200 employees), 6 medium (50-200 employees), 3 small (<50 employees).
- 4 phone based, 7 non-phone based, 3 mixed
- Aged 24 to 65 years, 68% female
- Broadly representative of Victorian DHS employees
Baseline activity

Activity at work, h/ 8-h at work
- 0.5h, 7%
- 1.1h, 14%
- 2.9h, 37%
- 3.4h, 42%

Activity overall, h/ 16-h day
- 1.7h, 11%
- 3.9h, 24%
- 10.3h, 65%

- Non-prolonged sitting
- Prolonged sitting
- Standing
- Stepping

Total workplace Sitting 79%
Variation in sitting time between sites

~ 40 mins variation between lowest & highest sitting sites

Hadgraft et al., under review
### Change at the workplace

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours per 8-h at work</th>
<th>Intervention (3M)</th>
<th>Control (3M)</th>
<th>Intervention (12M)</th>
<th>Control (12M)</th>
<th>p-value</th>
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</thead>
<tbody>
<tr>
<td>Sitting (workplace)</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>-1.7 h</td>
<td>(-2.1, -1.4)</td>
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<td>p&lt;0.001</td>
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<td></td>
<td>-1.0 h</td>
<td>(-1.3, -0.6)</td>
<td>*</td>
<td></td>
<td></td>
<td>p&lt;0.001</td>
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<tr>
<td>Standing (workplace)</td>
<td>1.7 h</td>
<td>(1.4, 2.1)</td>
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<tr>
<td></td>
<td>1.0 h</td>
<td>(0.6, 1.3)</td>
<td></td>
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<tr>
<td>Prolonged sitting (workplace)</td>
<td>-1.2 h</td>
<td>(-1.6, -0.9)</td>
<td>*</td>
<td></td>
<td></td>
<td>p&lt;0.001</td>
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<tr>
<td></td>
<td>-0.3 h</td>
<td>(-0.7, 0.1)</td>
<td></td>
<td></td>
<td></td>
<td>p=0.092</td>
</tr>
</tbody>
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**Healy et al., under review**
Change across the day (work & non work)

Hours per 16-h waking day

Sitting (overall)  Standing (overall)  Stepping (overall)

-1.2 h 1.2 h 3 min
(-1.5, -0.9) (-0.9, 1.5) (-3, 8)
p<0.001 p=0.004 p=0.346

-0.5 h 0.6 h -5 min
(-0.9, -0.4) (0.3, 0.9) (-11.1, 0.8)
p=0.004 p<0.001 p=0.090

Intervention (3M)  Control (3M)
Intervention (12M)  Control (12M)

Healy et al., under review
Stand Up Victoria

- Evaluate the effectiveness of a multi-component workplace intervention on workplace sitting time (primary outcome);
- Determine the impact of the intervention on other activity outcomes (prolonged sitting, standing and stepping at work; sitting, standing and stepping across the whole day);
- Determine the impact of the intervention on health- and work-related outcomes;
- Identify the factors that mediate and moderate intervention impacts;
- Assess intervention cost-effectiveness; and,
- Evaluate the acceptability of the intervention, and the barriers and facilitators of change.
What did staff say?

I thought it was good. I enjoyed it. ... When it was over was probably when I realised how much I did enjoy it. ... (it) made the day go faster. And I felt better for it.

The amount of desk space has been reduced too much which impacts on the functionality and ease of use of our workspace.

I found that you didn’t realise how much you actually did sit down in one sitting. ... When you sit down you get really sluggish and stiff but when you stand you are freer and loose and able to concentrate more. ... You feel fresher.

.... enabled us to have a bit more energy throughout the day. Instead of getting the sitting slump, you’re able to actually move and I find you actually get more energy by doing that, by moving more regularly and being able to alternate between sit and stand.
Where to next?

From Research to Reality – Evidence based translation

Reducing prolonged sitting in the workplace
An evidence review: summary report

Australia

Stand Up • Sit Less • Move More

www.vichealth.vic.gov.au
BeUpstanding Toolkit™

- Free online web based toolkit
- Designed as a comprehensive resource for the Workplace Champion

- Provides background evidence, program messages and strategies of the BeUpstanding Program™

Find out more about the toolkit in the next session
2pm to 3pm – New Toolkits for workplaces
Key messages

• **Cluster-RCT** evaluating multi-component approach to reducing workplace sitting
  - Intervention systematically developed

• Intervention was **acceptable & effective**

• Designed with **consideration for scale-up & dissemination**
  - Currently being developed & evaluated
Recommendations

• Physical environment key for sustainable change, but needs to be underpinned by relevant policies, raising awareness, & building a supportive culture

Stand Up, Sit Less, Move More

Organisational

Individual

Physical environment
Thank you for listening

Acknowledgements

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