### Multimedia Appendix 1  Overview of study and Internet characteristics and objective outcome measures of exposure to Internet interventions presented to behavior

<table>
<thead>
<tr>
<th>Study(^a), country</th>
<th>Target behavior, target group (N)</th>
<th>Potential exposure promoting elements, within main categories(^b)</th>
<th>Objective outcome measure regarding exposure to Internet intervention(^c)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Physical activity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 1. Carr (2008) \([36]\), USA | **Target behavior:** physical activity  
**Target group:** sedentary overweight non-smoking adults (N=32) with a BMI between 18-40 | IBC: 1. goal setting; 2. activity planning; 3. self-monitoring; 4. feedback on progress  
IE: virtual partner stories, quizzes, website links  
PS: -  
CS: weekly/bi-weekly e-mail/phone contact with facilitator  
EP: -  
UD: provision of new lessons  
II: - | Login: every 11\(^{th}\) day login during the intervention  
IBC: avg. 13 of 44 online journal activities (30%) |
| 2. Dunton (2008) \([37]\), USA | **Target behavior:** physical activity  
**Target group:** healthy and racially/ethnically-diverse females (N=156) aged 21-65 | IBC: 1. feedback on performance, cognitive constructs, and barrier identification and solution  
IE, PS, CS: -  
EP: 10 weekly follow-up e-mail newsletters with generic PA promotion information  
UD, II: - | Login: 0 times 5%; 1-2 times: 21%; 3-5 times: 37%; 6-10 times: 29%; >10 times: 8%  
EP: avg. 7.44 out of 10 ± 4.1 e-mails opened; 6.65 out of 25 ± 6.33 website links embedded in e-mails were opened (27%) |
| 3. Ferney (2008) \([28]\), Australia | **Target behavior:** walking and overall physical activity  
**Target group:** adults (N=106) aged 45-60 who did not meet current PA guidelines | a. IBC: 1. goal setting; 2. self-monitoring  
IE: target heart rate calculator, searchable database of local PA opportunities, website links  
PS: bulletin board  
CS: possibility to e-mail counselor  
EP: weekly/bi-weekly/maintenance e-mails with tailored feedback  
UD: bi-weekly updated news items  
II: -  

b. IBC, IE, PS, CS: -  
EP: e-mail with non-tailored advice  
UD, II: - | a. Login: avg. 8.2 logs ± 9.0  
IBC: 13% used self-monitoring tool; 52% completed at least 1 tailored quiz, avg. 2.2 ± 1.4 quizzes  
PS: 1 participant posted message on bulletin board  
CS: 25% e-mailed counselor  

b. Login: avg. 2.8 logs ± 2.4 |
| 4. Herman (2006) \([38]\), USA | **Target behavior:** physical activity  
**Target group:** employees of multinational information technology company (N=67,324) | IBC: 1. goal setting; 2. self-monitoring; 3. feedback on progress  
IE, PS: -  
CS: ask the expert  
EP: e-mails with educational and motivational content  
UD: -  
II: mementos and cash rebate | Access program content: 53% |
<table>
<thead>
<tr>
<th>Study (Year)</th>
<th>Country</th>
<th>Target behavior</th>
<th>Target group</th>
<th>IBC</th>
<th>IE</th>
<th>PS</th>
<th>CS</th>
<th>EP</th>
<th>UD, II</th>
<th>Visit duration</th>
<th>Login</th>
<th>Completion whole intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hurling (2007) [39], UK</td>
<td>Target behavior: total and moderate to vigorous physical activity</td>
<td>Target group: adults (N=77) aged 30-55 with a BMI of 19-30 who were not vigorously active</td>
<td>IBC: 1. feedback on performance, cognitive constructs, and barrier identification and solutions; 2. activity planning; 3. self-monitoring; 4. feedback on progress</td>
<td>IE: information library</td>
<td>PS: message board</td>
<td>CS: -</td>
<td>EP: e-mail and/or mobile phone prompts (optional), e-mail and/or mobile phone messages with motivational content (optional)</td>
<td>UD, II: -</td>
<td></td>
<td>Avg. 7.5 min ± 0.9</td>
<td>Avg. 2.9 logins ± 0.5 per week resulting in avg. 26.1 logins for 9 weeks</td>
<td></td>
</tr>
<tr>
<td>Hurling (2006) [40], UK</td>
<td>Target behavior: physical activity/exercise</td>
<td>Target group: adult employees (N=66) aged 23-54 years</td>
<td>a. IBC: 1. feedback on performance, cognitive constructs, and barrier identification and solutions; 2. activity planning; 3. self-monitoring; 4. feedback on progress</td>
<td>IE: information library</td>
<td>PS: message board</td>
<td>CS: -</td>
<td>EP: e-mail and/or mobile phone prompts (optional), e-mail and/or mobile phone messages with motivational content (optional)</td>
<td>UD, II: -</td>
<td></td>
<td>Avg. 7.5 min ± 0.9</td>
<td>Avg. 1.4 logins per week resulting in avg. 14 logins for 10 weeks</td>
<td>75%</td>
</tr>
<tr>
<td>Lewis (2008) [41], Marcus (2007) [42], USA</td>
<td>Target behavior: physical activity and exercise</td>
<td>Target group: healthy sedentary adults (N=249) aged 18 and older who were ≤ 90 minutes per week physically active</td>
<td>IBC: 1. feedback on performance and cognitive constructs; 2. goal setting; 3. self-monitoring; 4. feedback on progress</td>
<td>IE: website links</td>
<td>PS, CS: -</td>
<td>EP: e-mail as prompts</td>
<td>UD: monthly tailored feedback reports, daily update with tip of the day</td>
<td>UD, II: -</td>
<td></td>
<td>Avg. 7.1 min per session; total avg. 356 min in one year</td>
<td>Avg. 50 logins</td>
<td></td>
</tr>
<tr>
<td>Leslie (2005) [16], Australia</td>
<td>Target behavior: physical activity and exercise</td>
<td>Target group: academic and general staff of medium-sized university (N=655)</td>
<td>IBC: 1. feedback on cognitive constructs; 2. goal setting; 3. activity planning</td>
<td>IE: target heart rate calculator, rotating photo images of PA options</td>
<td>PS, CS: -</td>
<td>EP: 4 bi-weekly personalized stage-targeted e-mails</td>
<td>UD: daily update with tip of the day</td>
<td>UD, II: -</td>
<td></td>
<td>Avg. 6.8 min per session; total avg. 260 min in one year</td>
<td>Avg. 38 logins</td>
<td></td>
</tr>
<tr>
<td>Plotnikoff (2006) [43], Canada</td>
<td>Target behavior: raise awareness for physical activity</td>
<td>Target group: general national population (N=3175)</td>
<td>IBC: 1. goal setting; 2. activity planning; 3. self-monitoring; 4. feedback on progress</td>
<td>IE, PS, CS, EP, UD, II: -</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Author</td>
<td>Year</td>
<td>Country</td>
<td>Target behavior</td>
<td>Target group</td>
<td>Intervention components</td>
<td>Results</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>------</td>
<td>---------</td>
<td>-----------------</td>
<td>--------------</td>
<td>------------------------</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Spittaels (2006)</td>
<td>Spittaels</td>
<td>2006</td>
<td>Belgium</td>
<td>Physical activity</td>
<td>Visitors (N=55) of a university hospital aged 20 to 55</td>
<td>IBC: 1. feedback on performance, cognitive constructs, and barrier identification; 2. activity planning; 3. feedback on progress</td>
<td>Access program content: 28% (46% distributed with personal contact, 7% without personal contact)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Spittaels (2007)</td>
<td>Spittaels</td>
<td>2007</td>
<td>Belgium</td>
<td>Physical activity</td>
<td>Adults aged 20 to 55 (N=434)</td>
<td>a. IBC: 1. feedback on performance and cognitive constructs; 2. activity planning; 3. feedback on progress</td>
<td>Completion intervention first visit: 90% (89% distributed with personal contact, 100% without personal contact)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Steele (2007)</td>
<td>Steele</td>
<td>2007</td>
<td>Australia</td>
<td>Moderate intensity and lifestyle physical activity</td>
<td>Inactive adults (N=192) aged 18 and older being functionally mobile</td>
<td>a. IBC: 1. feedback on cognitive constructs; 2. goal setting; 3. activity planning; 4. self-monitoring</td>
<td>Login: avg. 11.8 logins [range 2-90]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Buller (2008)</td>
<td>Buller</td>
<td>2008</td>
<td>USA</td>
<td>Fruit and vegetable consumption</td>
<td>Adults (N=755) living in specific area for at least 6 months and being older than 18 years</td>
<td>IBC: website links, community directory</td>
<td>Access intervention content: 51%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Huang (2006)</td>
<td>Huang</td>
<td>2006</td>
<td>Australia</td>
<td>Purchases with saturated fat</td>
<td>Adult consumers (N=497) using a commercial online Internet supermarket shopping site</td>
<td>IBC: feedback on performance</td>
<td>Landing website: total of 11% for both interventions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**B. Nutrition**
| 15. McNeill (2007) [51], USA | **Target behavior:** fruit and vegetable consumption  
**Target group:** adults (N=52) residing in low-income multiethnic neighborhoods | **IBC:** -  
**IE:** recipes database  
**PS, CS:** -  
**EP:** e-mail as prompt, and e-mail with feedback on performance and tips on increasing consumption  
**UD:** -  
**II:** raffle for a small incentive | **Access website content:** 75%  
*Pages visited:* avg. 24.5 pages out of 192 distinct pages  
*Login:* avg. 3.8 logins  
**E-mail:** 56% login after first reminder; 27% after second reminder; 56% after final reminder |
|---|---|---|---|
| 16. Papadaki (2005) [52], Papadaki (2006) [53], Scotland | **Target behavior:** Consumption of four key components of the Mediterranean diet  
**Target group:** healthy females university employees (N=72) aged 25 to 55 | **IBC:** -  
**IE:** self-assessment quizzes, recipe section  
**PS:** bulletin board  
**CS:** -  
**EP:** 6 e-mails with feedback letters on performance, cognitive constructs, barrier identification and solution, progress, and progress; weekly e-mails as prompts including tips for relevant sections at the website with respect to goal  
**UD:** regular updates with tip of the day and new recipes  
**II:** - | **Landing website:** avg. 150 hits each month  
*Login:* avg. 15.5 logins |
| 17. Cussler (2008) [54], USA | **Target behavior:** weight maintenance through diet, physical activity and weight gain prevention  
**Target group:** premenopausal women (N=135) aged 40 to 55 with BMI between 25 and 38, non-smokers | **IBC:** 1. self-monitoring; 2. feedback on progress  
**IE:** communication tools, website links  
**PS:** self-organized support groups meeting online, bulletin board, chat rooms  
**CS:** optional counselor support through e-mail, bulletin board and chat  
**EP:** e-mail as intervention content  
**UD:** new added information/articles  
**II:** several web-based incentive programs | **Access program content:** 13% accessed initial program content; 6% accessed extended program content |
| 18. Glasgow (2007) [21], USA | **Target behavior:** weight loss through nutrition and physical activity  
**Target group:** health plan members (N=2311) with BMI < 30 for general membership and < 25 for those with chronic disease | **a. IBC:** 1. feedback on performance, cognitive constructs, and barrier identification and solution; 2. goal setting; 3. action planning  
**IE, PS, CS:** -  
**EP:** 6 e-mails as prompt to view follow-up action plans and tailored newsletters  
**UD:** 6 tailored newsletters  
**II:** -  
**b. IBC:** 1. feedback on performance, cognitive constructs, barrier identification and solution; 2. goal setting; 3. action planning  
**IE, PS, CS:** -  
**EP:** 3 e-mails as prompt to view follow-up action plans  
**UD:** 3 tailored newsletters  
**II:** -  
**c. IBC:** 1. feedback on performance, cognitive constructs, barrier identification and solution; 2. action planning  
**IE, PS, CS:** -  
**EP:** 6 e-mails as prompt to view follow-up action plans and tailored newsletters  
**UD:** 6 tailored newsletters  
**II:** - | **Access program content:** 62% accessed initial program content; 25% accessed extended program content  
**Access program content:** 19% accessed initial program content; 8% accessed extended program content |
<table>
<thead>
<tr>
<th>Study</th>
<th>Author(s)</th>
<th>Year</th>
<th>Country</th>
<th>Target behavior</th>
<th>Target group</th>
<th>IBC</th>
<th>IE</th>
<th>PS</th>
<th>CS</th>
<th>EP</th>
<th>UD</th>
<th>II</th>
<th>Access program content</th>
<th>Login</th>
<th>IBC: self-reported weight</th>
<th>CS: attendance online meeting</th>
<th>Login: avg. 49.1 logins</th>
<th>Login: avg. 15.8 times ± 15.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.</td>
<td>Gold (2007) [55], USA</td>
<td>2007</td>
<td>USA</td>
<td>weight loss through reducing calorie intake and increase aerobic activity</td>
<td>adults (N=124) aged 18 and older with a BMI between 25 and 39.9</td>
<td>a. IBC: 1. feedback on performance; 2. goal setting; 3. self-monitoring; 4. feedback on progress</td>
<td>IE: contests, menu/recipe planner, food and exercise-calorie database, target heart rate, BMI calculator</td>
<td>PS: bulletin boards, e-mail possibilities with peers</td>
<td>CS: weekly/bi-weekly therapist-led chat meetings; weekly/bi-weekly e-mails from therapist with feedback on completed assignments</td>
<td>EP: weekly/biweekly e-mails with intervention content from counselor</td>
<td>UD: weekly new lesson; weekly updated story, new flashes and tips; periodically updated motivation page and local events guide</td>
<td>II: periodically contests with prizes</td>
<td>90% accessed initial program content; 49% accessed extended program content</td>
<td>median 193/0-6 [range 120-309]; 90/6-12 months [range 21-154]</td>
<td>19/0-6 months [range 21-123]; 8/0-12 months [range 6-14]</td>
<td>19/0-6 months [range 21-123]; 8/0-12 months [range 6-14]</td>
<td>8/0-12 months [range 6-14]</td>
<td></td>
</tr>
</tbody>
</table>
| 23. McCoy (2005) [59], Australia | **Target behavior:** weight loss through changing physical activity and dietary behavior  
**Target group:** adults (N=808) of the general population | **IBC:** 1. feedback on cognitive constructs; 2. action planning  
**IE, PS, CS, EP, UD, II:** - | **Access program content:** 68%  
**Pages visited:** participants viewed in total 83,111 pages  
**Login:** participants viewed the program in total 6058 times with avg. 29 homepage visits per participant  
**IBC:** participants used in total the wellness record page 1792 times, the exercise planner 2487 times, and the diet planner 1344 times |
|---|---|---|---|
| 24. Micco (2007) [60], USA | **Target behavior:** weight loss through changing eating and exercise behavior  
**Target group:** Adults (N=123) aged 18 and older with a BMI between 25 and 39.9, non-smoking | a. **IBC:** 1. feedback on performance; 2. goal setting; 3. self-monitoring; 4. feedback on progress  
**IE:** contests, menu/recipe planner, food and exercise-calorie database, target heart rate, BMI calculator  
**PS:** bulletin boards, e-mail possibilities with peers  
**CS:** weekly/bi-weekly therapist-led chat meetings; weekly/bi-weekly e-mails from therapist with feedback on completed assignments  
**EP:** weekly/bi-weekly e-mails with intervention content from counselor  
**UD:** weekly new lesson; weekly updated story, new flashes and tips; periodically updated motivation page and local events guide  
**II:** periodically contests with prizes  

b. **IBC:** 1. feedback on performance; 2. goal setting; 3. self-monitoring; 4. feedback on progress  
**IE:** contests, menu/recipe planner, food and exercise-calorie database, target heart rate, BMI calculator  
**PS:** bulletin boards, e-mail possibilities with peers  
**CS, EP:** -  
**UD:** weekly new lesson; weekly updated story, new flashes and tips; periodically updated motivation page and local events guide  
**II:** periodically contests with prizes | **Login:** 0-6 months total of 223 hits; 7-12 months total of 99 hits  
**IE:** use BMI calculator avg. 2.6 times ± 3.0  
**CS:** attendance online meetings 0-6 months 76% ± 21%; 7-12 months: 58% ± 33% |
| 25. Petersen (2008) [61], USA | **Target behavior:** weight management by creating life long habits  
**Target group:** Employees of a multinational information technology company (N=7743) | **IBC:** 1. feedback on performance; 2. goal setting; 3. self-monitoring; 4. feedback on progress  
**IE:** interactive tools, e.g. meal planners, grocery lists, serving size calculator, information library  
**PS:** message boards  
**CS:** expert assistance  
**EP:** weekly e-mail newsletters, e-mails individualized to visitors' goals  
**UD:** -  
**II:** 'fictive' points that can be earned in interaction with website features | **Access program content:** 6%  
**Login:** 0-2 days 42%; 3-11 days 36%; ≥12 days 22% |
| 26. Tate (2001) [62], USA | **Target behavior:** weight loss through calorie restriction and increased physical activity  
**Target group:** Overweight hospital employees (N=91) aged 18 to 60 with a BMI of 25 to 36 | a. **IBC:** 1. self-monitoring  
**IE:** website links  
**PS:** bulletin board  
**CS:** weekly e-mail from therapist with feedback on progress, recommendations and strategies for improvement, answers on questions and encouragement  
**EP:** weekly behavioral weight loss lesson, and personal e-mail to motivate to continue for participants not sending log | **IBC:** mean submission of 13.65 ± 6.4 self-monitoring diaries  
**PS:** 28% posted a note on bulletin board [range 1-7]  
**Login:** avg. 19 logins ± 10.9  
*Login: avg. 8.5 logins ± 10.4 |
| 27. Tate (2006) [63], USA | **Target behavior:** weight loss through calorie restriction and increased physical activity  
**Target group:** overweight adults (N=192) aged 20 to 65 with a BMI of 27 to 40, willing to use meal replacements |
| --- |
| a. **IBC:** 1. feedback on performance; 2. self-monitoring; 3. feedback on progress  
**IE:** -  
**PS:** e-buddy network system, message board  
**CS:** -  
**EP:** 2 weekly emails with prompts, behavioral lessons and weight loss tips  
**UD, II:** - | Login: median 20 logins on both public and study website (median 2 logsins to public website)  
IBC: avg. 11.4 ± 9.2 online diary submissions |
| b. **IBC:** 1. self-monitoring  
**IE:** -  
**PS:** e-buddy network system, message board  
**CS:** counselor support containing feedback on progress through weekly e-mails  
**EP:** 2 weekly emails with prompts, a behavioral lesson and weight loss tips, weekly e-mail from counselor with feedback on performance, progress and overcoming barriers, motivation and answers to questions  
**UD, II:** - | Login: median 32.5 logins on both public and study website (median 9 logins to public website)  
IBC: avg. 17.2 ± 8.7 online diary submissions |
| c. **IBC:** 1. self-monitoring; 2. feedback on progress  
**IE:** -  
**PS:** e-buddy network system  
**CS:** -  
**EP:** weekly emails with prompts and weight loss tips  
**UD, II:** - | Login: median 34 logins on both public and study website (median 20 logins to public website)  
IBC: avg. 7.5 completed weekly self-monitoring diaries  
PS: avg. 2.4 postings on message board  
CS: avg. 8 attended chat sessions |

| 28. Webber (2008) [64], USA | **Target behavior:** weight loss through physical activity and dietary habits  
**Target group:** adult women (N=66) aged 22 to 65 with a BMI of 25 to 40 |
| --- |
| a. **IBC:** 1. self-monitoring  
**IE:** website links  
**PS:** message board  
**CS:** counselor support through weekly moderated online chat group sessions  
**EP:** weekly lessons  
**UD:** -  
**II:** - | Login: avg. 42.8 logins  
IBC: avg. 7.5 completed weekly self-monitoring diaries  
PS: avg. 2.4 postings on message board  
CS: avg. 8 attended chat sessions |
| b. **IBC:** 1. self-monitoring  
**IE:** website links  
**PS:** message board  
**CS, EP:** -  
**UD:** weekly modules  
**II:** - | *Login: avg. 39.7 logins  
IBC: avg. 9.1 completed weekly self-monitoring diaries  
PS: avg. 7.2 postings on message board |

| 29. Van Wier (2009) [65], Netherlands | **Target behavior:** weight loss through sustainable lifestyle changes (reduction of calories through fat, sugar and alcohol and increasing physical activity)  
**Target group:** employees (N=1386) aged 18 years and older with a BMI of 25 or higher |
| --- |
| **IBC, IE, PS:** -  
**CS:** counselor support through e-mail by commenting on homework assignments and answering of additional questions  
**EP:** counselor e-mail with intervention content, e-mail/phone prompt max twice a week by not logging on  
**UD:** weekly modules  
**II:** - | Access program content: 86%  
*Completion first visit: 74% completed at least first module  
CS: median 5 counseled sessions [IQR 1 to 10] |
<table>
<thead>
<tr>
<th>Study</th>
<th>Target group</th>
<th>Target behavior</th>
<th>Key features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing (2006) [66], USA</td>
<td>Adults (N=314) with a loss of at least 10% of their body weight during prior 2 years</td>
<td>Smoking cessation</td>
<td>IBC: 1. self-monitoring, 2. feedback on cognitive and behavioral processes; 2. feedback on weight gain during program; 3. action planning; 4. self-monitoring; 5. tailored e-mail support messages.</td>
</tr>
<tr>
<td>Brendryen (2008) [67], Norway</td>
<td>Adults (N=290) aged 18 and older, willing to quit without NRT</td>
<td>Smoking cessation</td>
<td>IBC: 1. action planning; 2. self-monitoring; 3. e-mail prompts, mobile phone text messages and voice response messages (reactive log-on calls), and post-quitting, support phone calls (proactive log-off calls); UD: daily, during first phase of intervention.</td>
</tr>
<tr>
<td>Brendryen (2008) [68], Norway</td>
<td>Adults (N=396) aged 18 and older, smoking 10 or more cigarettes daily who were willing to quit</td>
<td>Smoking cessation</td>
<td>IBC: 1. feedback on cognitive and behavioral processes; 2. setting quit date; 3. self-monitoring.</td>
</tr>
<tr>
<td>Cobb (2005) [70], USA</td>
<td>Adult smokers (N=1501)</td>
<td>Smoking cessation</td>
<td>IBC: 1. feedback on cognitive and behavioral processes; 2. setting quit date; 3. self-monitoring.</td>
</tr>
</tbody>
</table>
35. Danaher (2006) [32], USA

**Target behavior:** cessation of smokeless tobacco
**Target group:** adult smokeless tobacco users (N=2375)

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. IBC</td>
<td>1. feedback on cognitive and behavioral processes; 2. planning to quit</td>
</tr>
<tr>
<td>IE</td>
<td>video based testimonials, and website links</td>
</tr>
<tr>
<td>PS</td>
<td>support forum</td>
</tr>
<tr>
<td>CS</td>
<td>ask the expert forum</td>
</tr>
<tr>
<td>EP</td>
<td>e-mails prompts, and support e-mails</td>
</tr>
<tr>
<td>UD</td>
<td>new information in stay quit part</td>
</tr>
<tr>
<td>II</td>
<td>-</td>
</tr>
<tr>
<td>b. IBC</td>
<td>-</td>
</tr>
<tr>
<td>IE</td>
<td>website links</td>
</tr>
<tr>
<td>PS, CS, EP, UD, II</td>
<td>-</td>
</tr>
</tbody>
</table>

**Access program content:** 96%
**Visit duration:** median overall 28.99 min
**Completion first visit:** 64% continued on day of enrolment
**Login:** median 2 logins
**IBC:** 63% setting quit date
**IE:** 18% used outside links; 68% video testimonial
**PS:** 38% posted message
**CS:** 5% posted message
**Access program content:** 93%
**Visit duration:** median overall 12.50 min
**Completion first visit:** 39% continued on day of enrolment
**Login:** median 1 logins
**IE:** 32% used outside links

36. Feil (2003) [71], USA

**Target behavior:** smoking cessation
**Target group:** adults (N=606) aged 18 and older in at least contemplator stage of quitting

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBC</td>
<td>1. planning to quit</td>
</tr>
<tr>
<td>IE</td>
<td>anti-tobacco entertainment, e.g., puzzles and video’s, and website links</td>
</tr>
<tr>
<td>PS</td>
<td>bulletin board, and chat room</td>
</tr>
<tr>
<td>CS</td>
<td>ask the expert</td>
</tr>
<tr>
<td>EP</td>
<td>e-mail messages as intervention component</td>
</tr>
<tr>
<td>UD, II</td>
<td>-</td>
</tr>
</tbody>
</table>

**Visit duration:** avg. 7.9 logins ± 38.8; women 8.3 logins ± 39.2; men 6.7 logins ± 41.5
**IBC:** 63% accessed personalized quit-plan segment
**PS:** avg. 3.7 posting ± 30.3; women 4.4 postings ± 34.6; men 1.8 postings ± 14.2

37. Graham (2007) [72], USA

**Target behavior:** smoking cessation
**Target group:** smoking employees of a multinational information technology company (N=1776)

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBC</td>
<td>1. feedback on cognitive and behavioral processes; 2. setting quit date; 3. self-monitoring</td>
</tr>
<tr>
<td>IE</td>
<td>money and ‘life saved’ calculator, real time notification of forum/chat/internal e-mail messages, identification of quitting buddies, and searchable list of smoking cessation resources</td>
</tr>
<tr>
<td>PS</td>
<td>forums, internal e-mail system, chat rooms, and buddy system</td>
</tr>
<tr>
<td>CS</td>
<td>individual counseling support by online counselors, and ask the expert in online forum</td>
</tr>
<tr>
<td>EP</td>
<td>tailored e-mail support messages</td>
</tr>
<tr>
<td>UD</td>
<td>-</td>
</tr>
<tr>
<td>II</td>
<td>-</td>
</tr>
<tr>
<td>*</td>
<td>Benefits premium discount of $11 per month to a maximum of $132 for the year, for use of intervention</td>
</tr>
</tbody>
</table>

**Visit duration:** avg. 15 min per visit ± 10.3 min, median 12 min; avg. 205 min in total ± 2161, median 23 min
**Pages visited:** avg. 95 pages ± 518; median of 18 pages
**Login:** avg. 12 logins ± 89.7; median 2 logins [range 0-1846]
**Revisit:** 53%; never accessed program <1%, 1 time 46%, 2 times 19%; 3 times 10%, 4 or more times 24%
**IBC:** 62% used expert system for quit date; 18% used medication expert system
**PS:** 7% quitters and 0.4% continued smokers posted on forum; 8% quitters and 4% continued smokers had a buddy; 9% quitters and 2% continued smokers belonged to club; 12% quitters and 6% continued smokers sent e-mail to other members

38. Houston (2008) [73], USA

**Target behavior:** smoking cessation
**Target group:** current smokers (N=231)

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. IBC</td>
<td>1. feedback on cognitive constructs; 2. planning to quit</td>
</tr>
<tr>
<td>IE</td>
<td>small games and quizzes, decisional balance calculator, and library</td>
</tr>
<tr>
<td>PS</td>
<td>forum</td>
</tr>
<tr>
<td>CS</td>
<td>ask the expert</td>
</tr>
<tr>
<td>EP, UD, II</td>
<td>-</td>
</tr>
<tr>
<td>b. IBC</td>
<td>1. feedback on cognitive constructs; 2. planning to quit</td>
</tr>
<tr>
<td>IE</td>
<td>small games and quizzes, decisional balance calculator, and library</td>
</tr>
<tr>
<td>PS</td>
<td>forum</td>
</tr>
<tr>
<td>CS</td>
<td>ask the expert</td>
</tr>
<tr>
<td>EP, UD, II</td>
<td>-</td>
</tr>
</tbody>
</table>

**Duration visit:** median 18 min; <3 min 24%, 3-10 min 13%, >10-25 min 31%, >25 min 32%
**Remark:** 16% of both phases used forum; 4% of both phases used ask the expert; 1% (3 participants) of both phases revisited the website
**IBC:** 69% used self-management strategies; 50% used family help module; 56% used talking to your doctor module
**Duration visit:** median 8 min; <3 min 31%, 3-10 min 30%, >10-25 min 15%, >25 min 25%
**IBC:** 58% used self-management strategies; 29% used family help module; 33% used talking to your doctor module

39. Lenert (2003) [22], USA

**Target behavior:** smoking cessation
**Target group:** smokers (N=49) who had completed a previous web-based survey on cessation needs and who had failed to quit but were ready to quit

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBC</td>
<td>1. feedback on behavior; 2. self-monitoring</td>
</tr>
<tr>
<td>IE, PS, CS</td>
<td>-</td>
</tr>
<tr>
<td>EP</td>
<td>e-mail prompts</td>
</tr>
<tr>
<td>UD</td>
<td>-</td>
</tr>
</tbody>
</table>

**Access program content:** 86%
**Completing first visit:** 25% completed all modules; avg. 2 of 8 modules were completed
**Login:** median 2 logins
**IBC:** 82% set quit date
<table>
<thead>
<tr>
<th>Source</th>
<th>Year</th>
<th>Country</th>
<th>Target behavior</th>
<th>Target group</th>
<th>Duration visit</th>
<th>Login</th>
<th>Revisit website</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. McKay (2008)</td>
<td>2008</td>
<td>USA</td>
<td>a. smoking cessation; b. smoking cessation, through improving physical activity</td>
<td>current smokers (N=2328) aged 18 and older interested in quitting in next 30 days and willingness to engage in moderate PA</td>
<td>a. IBC: 1. feedback on cognitive and behavioral processes; 2. planning to quit</td>
<td>b. IBC: 1. feedback on performance; 2. goal setting; 3. action planning; 4. self-monitoring; 5. feedback on progress</td>
<td>a. IBC: average 8.4 min per visit; total avg. 18.04 min ± 22.18</td>
<td>a. Login: avg. 2.14 logins ± 3.66</td>
</tr>
<tr>
<td>41. Saul (2007)</td>
<td>2007</td>
<td>USA</td>
<td>smoking cessation</td>
<td>adult (N=607) aged 18 and older who accessed the site as a current smoker and had not already quit at the time of registration</td>
<td>IBC: 1. feedback on cognitive constructs; 2. setting quit date; 3. self-monitoring</td>
<td>IE: money and ‘life saved’ calculator, real time notification of forum/chat/internal e-mail messages, identification of quitting buddies, and searchable list of smoking cessation resources</td>
<td>Login: in past 6 month never logged in: 52%; 1-3 logins: 29%; 4 or more logins: 19%</td>
<td>Revisit website: 48%; 32% of non-responders and 53% of responders</td>
</tr>
<tr>
<td>42. Severson (2008)</td>
<td>2008</td>
<td>USA</td>
<td>smoke free tobacco cessation</td>
<td>adult smokeless tobacco users (N=2523) aged 18 and over who were thinking of quitting</td>
<td>a. IBC: 1. feedback on cognitive and behavioral processes; 2. planning to quit</td>
<td>IE: video's and website links</td>
<td>Access program content: 95%</td>
<td>Access program content: 93%</td>
</tr>
<tr>
<td>43. Stoddard (2005)</td>
<td>2005</td>
<td>USA</td>
<td>smoking cessation</td>
<td>smokers (N=538) aged 18 and over who smoked 1 or more cigarettes daily</td>
<td>IBC: 1. feedback on nicotine dependency and depressive symptoms</td>
<td>IE: website links</td>
<td>Landing website: 0.5% of direct mail</td>
<td>Completion first visit: 91%</td>
</tr>
<tr>
<td>44. Stoddard (2008)</td>
<td>2008</td>
<td>USA</td>
<td>smoking cessation</td>
<td>adult federal employees and contractors (N=1375) aged 18 and over who were willing to quit smoking</td>
<td>a. IBC: 1. feedback on cognitive processes</td>
<td>IE: -</td>
<td></td>
<td>8Duration visit: avg. 18.0 min</td>
</tr>
</tbody>
</table>

Hit statistics varied from 242 to 437 hits.

*Duration visit: avg. 8.3 min per visit; total avg. 15.77 min; median 11.62 min [range 0.04-186]
*Login: avg. 1.9 logins; median 1 logins [range 1-25]
*Completion first visit: 91%
<table>
<thead>
<tr>
<th>Study</th>
<th>Target behavior</th>
<th>Target group</th>
<th>IBC</th>
<th>IE</th>
<th>PS</th>
<th>CS</th>
<th>EP</th>
<th>UD</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>45. Strecher (2005) [78], England and Ireland</td>
<td>smoking cessation among nicotine patch users</td>
<td>adult smokers (N=3971) aged 18 and older smoking more than 10 cigarettes a day, who purchased nicotine patches and target quit date within 7 days</td>
<td>b. IBC: 1. feedback on cognitive processes IE, PS, CS: online counseling EP: e-mail support and prompt messages UD, II: -</td>
<td>a. IBC: 1. feedback on cognitive and behavioral processes IE, PS, CS: e-mail support messages UD: three sequential newsletters via website II: -</td>
<td>Duration visit: avg. 11.1 min IBC: hits various tools varied from 240 to 413 hits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46. Strecher (2008) [79, 80], USA</td>
<td>smoking cessation</td>
<td>adult smokers (N=944) aged 21-70, smoked at least 100 cigarettes in lifetime and currently smoking at least 10 cigarettes a day, who were seriously considering quitting in next 30 days</td>
<td>b. IBC, IE, PS, CS: e-mail support messages UD, II: -</td>
<td>a. IBC: 1. feedback on cognitive and behavioral processes, and on barrier identification and solutions; 2. setting quit date IE: success stories PS, CS: - EP: e-mail prompts UD: weekly new opened sections II: -</td>
<td>Access program content: 88%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47. Swartz. (2006) [81], USA</td>
<td>smoking cessation</td>
<td>smokers (N=351) aged 18 and older, currently smoking daily, willing to make quit attempt in the next 30 days</td>
<td>b. IBC: 1. feedback on cognitive and behavioral processes, and on barrier identification and solutions; 2. setting quit date IE: video segments, and audio segments in combination with animated graphics PS, CS, EP, UD, II: -</td>
<td>a. IBC: 1. feedback on cognitive and behavioral processes and on performance and cognitive constructs IE: FAQ and website links PS, CS, EP, UD, II: -</td>
<td>IBC: avg. 2.6 opened sections</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Alcohol reduction</td>
<td>abstaining or controlled drinking</td>
<td>adult problem drinkers (N=2813) aged 18 and older</td>
<td>IBC: 1. feedback on performance and cognitive constructs IE: FAQ and website links PS, CS, EP, UD, II: -</td>
<td></td>
<td>Landing website: 10,253 hits during 172 study period Access program content: 27%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference</td>
<td>Target behavior:</td>
<td>Target group:</td>
<td>IBC: feedback on performance</td>
<td>IE, PS, CS, EP, UD, II:</td>
<td>Landing website:</td>
<td>Access program content:</td>
<td>Completion first visit:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------------------</td>
<td>------------------------------------------------------</td>
<td>----------------------------</td>
<td>------------------------</td>
<td>------------------</td>
<td>-------------------------</td>
<td>-------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50. Cunningham (2000) [84], Canada</td>
<td>problem drinking, drinking habits</td>
<td>NR (N=214)</td>
<td>1. feedback on performance</td>
<td>I, E, PS, CS, EP, UD, II:</td>
<td>more than 500 hits each month</td>
<td>14%</td>
<td>88%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51. Lieberman (2006) [85], USA</td>
<td>alcohol abuse</td>
<td>adults (N=288)</td>
<td>1. feedback on cognitive constructs</td>
<td>I, E: online guide</td>
<td>89%</td>
<td>1 module; 2 modules; 3 modules</td>
<td>83%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>52. Linke (2004) [86], Linke (2005) [87], UK</td>
<td>excessive alcohol consumption</td>
<td>adults (N=1319) with a FAST score of 3 of above</td>
<td>1. feedback on performance and cognitive constructs; 2. self-monitoring</td>
<td>I, E: quizzes, recreational area, blood alcohol concentration calculator, FAQ about heavy drinking, mouse-overs</td>
<td>7,581 hits during 6-month study period</td>
<td>17%</td>
<td>62%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53. Linke (2007)[88], UK</td>
<td>promotion of sensible drinking</td>
<td>adults (N=10,000) with a FAST score of 3 of above</td>
<td>1. feedback on performance and cognitive constructs; 2. self-monitoring</td>
<td>I, E: quizzes, recreational area, blood alcohol concentration calculator, FAQ about heavy drinking, mouse-overs</td>
<td>-</td>
<td>89%</td>
<td>17% complete all 6 weeks (89% week 1, 40% week 2, 30% week 3, 24% week 4, 19% week 5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54. Matano (2007) [89], USA</td>
<td>reduction of alcohol consumption</td>
<td>employees at a worksite (N=229) with low or moderate risk for alcohol-related problems</td>
<td>1. feedback on performance, stress levels, and cognitive constructs; 2. self-monitoring; 3. feedback on progress</td>
<td>I, E: mini-workshop, animations, website links</td>
<td>-</td>
<td>72%</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55. Riper (2008) [90], Netherlands</td>
<td>reduction of alcohol consumption</td>
<td>excessive and hazardous drinkers (N=261) aged 28-65 without professional help</td>
<td>1. feedback on behavior and cognitive constructs; 2. goal setting; 3. self-monitoring; 4. feedback on progress</td>
<td>I, E: animations, website links</td>
<td>-</td>
<td>45%</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56. Saiz (2004) [91], USA</td>
<td>Alcohol use</td>
<td>adult website visitors (N=39,842) aged 18 and above who complete screening about their own drinking</td>
<td>feedback on performance</td>
<td>I, E: online information library, searchable national database, website links</td>
<td>-</td>
<td>51%</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
57. Westrup (2003) [92], USA
**Target behavior:** reduction of alcohol consumption  
**Target group:** highly educated workforce (N=187)

- a. IBC: 1. feedback performance, stress levels and cognitive constructs; 2. self-monitoring; 3. feedback on progress  
  - IE: mini-workshop, animations, website links  
  - PS: forum  
  - CS, EP, UD, II: -

- b. IBC: 1. feedback on stress levels and cognitive constructs; 2. self-monitoring; 3. feedback on progress  
  - IE: mini-workshop, animations, website links  
  - PS: forum  
  - CS, EP, UD, II: -

**Remark:** no distinction was made between Internet interventions regarding visit duration and login  
**Duration visit:** avg. 19.9 min ± 14.2 [range 3-68]; high risk avg. 19.9 min ± 13.3, moderate risk avg. 14.6 min ± 10.8, low risk avg. 14.8 ± 10.7  
**Login:** 1 login 78%, 2 logins 16%, 3 logins 4%, 4 or 5 logins 3%

F. Combination of behaviors

| 58. Cook (2007) [93], USA | **Target behavior:** nutrition/weight management, fitness/physical activity, and stress management  
**Target group:** employees of human resources company (N=419)  
**IBC:** 1. feedback on performance and cognitive constructs; 2. goal setting; 3. action planning; 4. self-monitoring; 5. feedback on progress  
**IE:** BMI and target heart rate calculator, video testimonials and skills training, interactive exercises and videos, FAQ, website links  
**PS, CS, EP, UD, II:** - | **Access program content:** 10%  
IBC: 14% never used nutrition module, 45% one time, 25% twice, 15% more than twice; 20% never used physical activity module, 55% one time, 16% twice, 9% more than twice  
**Completing first visit:** 13% of eligible participants |

| 59. Cowdery (2007) [94], USA | **Target behavior:** Smoking cessation, weight management, nutrition, physical activity, alcohol, injury prevention, mental health, skin protection  
**Target group:** university staff (N=90)  
**IBC:** 1. feedback on performance and cognitive constructs  
**IE:** website links  
**PS, CS, EP, UD, II:** - | **Access program content:** 81%  
**Completing first visit:** 93% completed at least one module  
IBC: 72% visited saturated fat module, 72% physical activity module, 60% of the smokers visited smoking module  
**Revisit website:** 10%; 2 times 8%, 3 times 2%, 4 times <1%  
**Completion whole intervention:** 22% |

| 60. Oenema (2008) [95], Netherlands | **Target behavior:** saturated fat intake, physical activity, smoking cessation  
**Target group:** adult participants (N=2159) of an online research panel aged 30 and older  
**IBC:** 1. feedback on performance and cognitive constructs; 2. action planning; 3. feedback on progress  
**IE, PS, CS, EP, UD, II:** - | **Access program content:** 81%  
**Completing first visit:** 93% completed at least one module  
IBC: 72% visited saturated fat module, 72% physical activity module, 60% of the smokers visited smoking module  
**Completion whole intervention:** 22% |

| 61. Verheijden (2007) [23], Netherlands | **Target behavior:** health promotion through several lifestyle behaviors aimed at physical activity as core behavior, and dietary habits, alcohol intake, smoking, work, cardio-respiratory fitness, and muscle strength  
**Target group:** general adult population (N=6272)  
**IBC:** 1. feedback on performance; 2. feedback on progress  
**IE:** self-tests on anthropometrics, cardio-respiratory fitness, and muscle strength  
**PS, CS:** -  
**EP:** email as prompt  
**UD:** availability of follow-up modules  
**II:** - | **Access program content:** 88%  
**Duration visit:** avg. 11.6 min week 1, avg. 8.6 min week 2, avg. 7 min weeks 3-12, resulting in avg. 7.5 min per week  
**Login:** week 1-2 avg. 6 logins per week, week 3-12 avg. 2 logins per week, resulting in 32 logins during intervention period  
**Completion whole intervention:** 22% |

| 62. Ware (2008) [96], UK | **Target behavior:** Weight loss, weight maintenance, physical activity  
**Target group:** office and manufacturer workers (N=265)  
**IBC:** 1. feedback on performance and barrier identification; 2. goal setting; 3. action planning; 4. self-monitoring; 5. feedback on progress  
**IE:** -  
**PS:** community message boards, discussion forums  
**CS:** -  
**EP:** e-mail and/or mobile phone reminder messages  
**UD, II:** - | **Access program content:** 88%  
**Duration visit:** avg. 11.6 min week 1, avg. 8.6 min week 2, avg. 7 min weeks 3-12, resulting in avg. 7.5 min per week  
**Login:** week 1-2 avg. 6 logins per week, week 3-12 avg. 2 logins per week, resulting in 32 logins during intervention period  
**Completion whole intervention:** 22% |
| 63. Winett (2007) [97], USA | **Target behavior:** fat, fiber, and fruit and vegetable intake, physical activity  
**Target group:** adult church members (N=1071)  
--- | **a. IBC:** 1. feedback on cognitive constructs; 2. goal setting; 3. self-monitoring; 4. feedback on progress  
**IE:** audio narrator ‘guide’, virtual restaurant  
**PS, CS, EP:** -  
**UD:** weekly new modules  
**II:** -  
--- | **Access program content:** 80%  

**Completion whole intervention:** 50%  
IBC: avg. 7.0 modules were viewed; 50% viewed all modules  
--- |  |  |
|  | **b. IBC:** 1. feedback on cognitive constructs; 2. goal setting; 3. self-monitoring; 4. feedback on progress  
**IE:** audio narrator ‘guide’, virtual restaurant  
**PS, CS, EP:** -  
**UD:** weekly new modules  
**II:** -  | **Access program content:** 57%  

**Completion whole intervention:** 25%  
IBC: avg. 4.6 modules were viewed; 25% viewed all modules  |
| 64. Woolf (2006) [98], USA | **Target behavior:** healthy diet, physical activity, smoking cessation, and reduced problem drinking  
**Target group:** adults (N=273) with unhealthy behaviors  
--- | **IBC:** 1. feedback on performance and cognitive constructs  
**IE:** website links, resource library  
**PS, CS:** -  
**EP:** e-mail prompts  
**UD, II:** -  
--- | **Landing website:** 932 hits of 25,488 unique patients visited practice during study period  
**Access program content:** 8%  
**Completion first visit/intervention:** 94%  |

**Notes:** NR = not reported; BMI = body mass index; NRT = nicotine replacement therapy; FAST = fast alcohol screening test  

1 Information of publications that evaluated and reported on the same interventions but were separate studies were combined. This applies to the following studies: both studies of Hurling [39, 40], Gold [55 and Micco [60], both studies of Brendryen [68, 69], Cobb [70] with Graham [72] and Saul [75], Danahar [32] and Severso [31], both studies of Linke [86-88], and Matano [89] and Westrup [92].  

2 The main categories of potential exposure promoting elements are abbreviated as: IBC = interactive behavior change strategy; IE = interactive elements; PS = peer support; CS = counselor/therapist support; EP = e-mail and/or phone contact; UD = update intervention website; II = intervention incentive  

3 Both Internet interventions a. from Gold [55] and Micco [60] are identical as they come from the same study but are compared in two publications to another intervention  

4 Indicate that these exposure measures are incorporated in Table 3 and 4