

**Supplemental - Table 2. Detailed description of text message interventions**

Source (Country)	Detailed Intervention Description
Narring et al. [35] (Switzerland)	<p><b>Purpose:</b> Improve attendance in a multi-disciplinary clinic</p> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• Generic text messages in French to all participants</li> <li>• Sent between 8 and 11 am the day before scheduled appointment</li> <li>• Customized for date/time of appointment and name of the doctor</li> <li>• Two-way communication, patients could respond by “No” if they did not plan to attend their scheduled appointment</li> <li>• Text messages automatically, based on scheduled date, through “Easy Smart Care” using EasyMed Services Inc. platform</li> <li>• Research assistant and EasyMed Inc. managed text messages</li> <li>• Was not possible to know if text messages were received</li> <li>• No incentives or rewards for participation</li> </ul>
Branson et al. [36] (United States)	<p><b>Purpose:</b> Improve attendance in mental health clinic</p> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• Generic text messages to all participants</li> <li>• Sent the night before scheduled therapy session</li> <li>• Research staff used a study cell phone to send reminders</li> <li>• Confidentiality maintained, no reference to nature of the appointment (e.g., “C u Wed @8”)</li> <li>• One-way communication, from research staff to patients</li> <li>• Participant phone number was verified at time of enrollment by texting study cell phone one time</li> <li>• Participants’ phone numbers saved on study cell phone and deleted after completion of the study</li> <li>• Participants offered \$20 prepaid cellular phone minutes per month to offset cost of text reminders</li> <li>• Participants received \$20 gift-card after 3-mon follow up interview regarding satisfaction with intervention</li> </ul>
Castano et al. [37] (United States)	<p><b>Purpose:</b> Improve continuation of oral contraceptive pills at 6 months</p> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• Daily text messages for 180 days (6 months)</li> <li>• Each participant decided her text-message start date and time of delivery in a given day</li> <li>• Text messages sent through secure web-based platform</li> <li>• Message content varied and included: <ul style="list-style-type: none"> <li>○ Introductory message (n=1)</li> <li>○ How to change contact information or message time (n=3)</li> <li>○ Educational messages (n=47), repeated 4 times</li> <li>○ Two-way communications for quality control (n=12)</li> <li>○ Final message (n=1)</li> </ul> </li> <li>• Total individual message length under 160 characters</li> <li>• Confidentiality maintained, no names or mention of oral contraceptive pills</li> <li>• All text-messages were available in English and Spanish</li> <li>• Participants could login to study web portal to change time of daily text messages, contact information, or discontinue text messages at any time</li> <li>• Participants instructed to direct all medical questions to health care providers</li> <li>• Participants received \$10 compensation that cover the cost of text messages for 6 month study period</li> </ul> <p><b>Intervention and Control:</b></p>

	<ul style="list-style-type: none"> <li>• SOC included counseling by staff, and educational handout that covered use, effectiveness, risks or side effects, benefits, and mechanism of action</li> </ul>
Hou et al. [38] (United States)	<p><b>Purpose:</b> Increase oral contraceptive pills adherence</p> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• Daily text messages for 90 days (3 months)</li> <li>• Generic message content “Please remember to take your birth control pill”</li> <li>• Customized text delivery time based on participant preference</li> <li>• Text sent through TXT Signal, Inc., Gainesville, FL</li> </ul> <p><b>Intervention and Control:</b></p> <ul style="list-style-type: none"> <li>• Received EMD (SIMPill) for real-time pill adherence assessment (Clinical Technology Advisors, Inc., Acton, MA)</li> <li>• Were asked to charge their EMD once a month, with a reminder sent to them the 15th day of every month</li> <li>• Completed paper pill diary for 3 month, returned at end of study</li> <li>• Were allowed to use a phone or clock alarm as reminders</li> <li>• Participants were allowed to chose from 2 oral contraceptive pills regimens</li> </ul>
Trent et al. [39] (United States)	<p><b>Purpose:</b> Improving Depo-Provera appointment attendance</p> <p><b>Intervention (DepoText):</b></p> <ul style="list-style-type: none"> <li>• Messages included: <ul style="list-style-type: none"> <li>◦ Welcome message</li> <li>◦ Daily appointment reminder text starting 72 hours before appointment date</li> <li>◦ Education on condom use for STI prevention, weight management, encouragement to call with problems, and a reminder for STI screening</li> </ul> </li> <li>• Generic message content to all participants with nurse case manager signature at the end of the text</li> <li>• Message delivery and patient responsiveness were tracked</li> <li>• Two-way communication as patients responded “Yes” or “No” if they plan to attend appointment, if “No”, e-mail sent to nurse to reschedule</li> <li>• \$10 remuneration for completing baseline web-based survey, and \$5 if they notified nurse manager with any change in their contact information</li> <li>• Confidentiality was relatively maintained, no patient names, but content was related to Depo-Provera use and sexual health</li> <li>• Depo-Text sent through Compliance for Life short messaging system platform (iReminder, LLC, Westfield, NJ)</li> </ul> <p><b>Intervention and Control:</b></p> <ul style="list-style-type: none"> <li>• SOC included nursing assessment, medical assessment if indicated, counseling, appointment card with next injection date, and automated clinic appointment reminders to their home phones</li> </ul>
Suffoletto et al. [40] (United States)	<p><b>Purpose:</b> Reduce sex risk behavior among at-risk young adult females discharged from emergency department</p> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• Participants received initial welcome messages describing the program at time of enrollment</li> <li>• Each Sunday at noon, a sequence of text messages was sent to: <ul style="list-style-type: none"> <li>◦ Assess risky encounters over the past week</li> <li>◦ Provide personalized feedback on risk behavior</li> <li>◦ Prompt collaborative goal setting to not have a risky encounters over the coming week</li> </ul> </li> <li>• Text messaging algorithm: <ul style="list-style-type: none"> <li>◦ If no response to weekly queries within 6 hours, a second text was sent with the same initial assessment message</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ If no response in 12 hours following the second message, data were considered lost and participants were re-texted the following week</li> <li>○ If no assessments completed for 2 weeks, participants were e-mailed to check their contact information (e.g. phone number)</li> <li>• Informative messages sent in-between weekly assessments to increase individual's perceived: <ul style="list-style-type: none"> <li>○ Susceptibility of getting STIs</li> <li>○ Severity of health risk associated with STIs</li> <li>○ Benefits of adopting protective behaviors (e.g. using condoms)</li> </ul> </li> <li>• Feasibility based on eligibility, enrollment, and completion rates</li> <li>• Intervention group evaluated acceptability based on a survey of the value of provided information and intervention usefulness</li> </ul> <p><b>Control:</b></p> <ul style="list-style-type: none"> <li>• Received a welcome text message, and follow up messages with how many weeks left in the study</li> </ul> <p><b>Intervention and control:</b></p> <ul style="list-style-type: none"> <li>• Logged into study website to complete follow-up final questionnaire that measured alcohol use and sex behaviors, similar baseline questionnaire</li> <li>• Participants received \$10 after completing baseline questionnaire, and \$20 after completing final questionnaire</li> </ul>
<p>Cornelius et al. [41] (United States)</p>	<p><b>Purpose:</b> Improve HIV knowledge and attitudes toward condoms among African American adolescents</p> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• Becoming a Responsible Teen (BART) curriculum</li> <li>○ Seven weekly sessions conducted at 10 AM on Saturdays at the University</li> <li>○ Information sessions covered the topics of understanding HIV, sexual decision making, developing condom skills, learning and practicing assertiveness communication skills, personalizing risks, and spreading the word about BART</li> <li>○ Each session lasted for about 90 to 120 minutes</li> <li>○ Final session (graduation) at the 3-month follow-up and participants took post-BART surveys on the computer <ul style="list-style-type: none"> <li>• Text messaging:</li> </ul> </li> <li>○ Started the day after completion of BART curriculum</li> <li>○ Daily multi-media mobile cell phone boosters (text messages, pictures, and videos)</li> <li>○ All messages were delivered at 3 PM daily for 3 months</li> <li>○ Participants were required to respond to each message and the assigned facilitator sent tailored responses to each reply</li> <li>○ Participants were also allowed to text their assigned facilitators with additional questions about the process or any topic related to safer sex practices</li> <li>○ Each participant were provided a smart phone with unlimited text messaging and Web access for 90 days</li> <li>○ At the end of 3 months of texting, participants returned for a follow-up session, completed follow- up surveys on the computer, and attended a graduation ceremony (session 8 of the BART curriculum) <ul style="list-style-type: none"> <li>• Facilitators:</li> </ul> </li> <li>○ Two trained master facilitators were responsible for training other facilitators and sending daily text messages to participants</li> <li>○ Six additional facilitators were hired to deliver the face-to-face information and to respond to participants' text messaging responses</li> <li>○ Required to be African American, have some college education or experience working with adolescents, and have effective communication skills</li> <li>○ Trained to deliver the BART curriculum and to respond to participants' text message responses via smart phones</li> </ul>

	<ul style="list-style-type: none"> <li>• Participants were compensated \$20 for each weekly session and \$50 for the 3-month follow-up session</li> </ul>
Moore et al. [43] (Wales)	<p><b>Purpose:</b> Reduce future alcohol consumption based on data of past alcohol expenditure</p> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• Definition of different alcohol units was sent to participants</li> <li>• Daily text messages sent at 11 am requesting alcohol consumption data, in units, in the preceding day</li> <li>• Participants could leave the study and stop receiving text messages any time</li> <li>• Intervention was a single text message intervention sent to participants half-way through the study (week-4) with their alcohol expenditure in the previous month, calculated based on their reported consumption and average price unit</li> <li>• Intervention message read “Alcohol study: We estimate that you have spent £x on alcohol in the past month”</li> </ul>
Haug et al. [44] (Switzerland)	<p><b>Purpose:</b> Reduce alcohol binge or problem drinking in vocational school students.</p> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• Alk-Check, automatically generated individually tailored online feedback and SMS messages</li> <li>• Content of both components was based on effective social norms intervention programs</li> <li>• Online program: <ul style="list-style-type: none"> <li>○ Tailored according to: gender, age, number of standard drinks in a typical week, and frequency of risky single-occasion drinking (RSOD) occasions in the last 30 days.</li> <li>○ Feedback included graphical and textual information concerning (1) drinks per week in relation to the age and gender-specific reference group, (2) financial costs of drinking, (3) calories consumed with alcoholic drinks, and (4) number of heavy drinking occasions in relation to the age and gender-specific reference group</li> <li>○ Included an option to print and send electronically to the participants’ email accounts</li> </ul> </li> <li>• Text messages: <ul style="list-style-type: none"> <li>○ All participants received text messages for a period of 12 weeks</li> <li>○ Participants were assigned to one of three risk groups (Non-risk, Low-Risk or High-Risk), based on the number of RSOD occasions in the last 30 days</li> <li>○ Messages were sent either weekly (low risk) or weekly + bi-weekly (high risk)</li> <li>○ Content and number of text messages were tailored according to: gender, motivation for reduced alcohol consumption, alcohol-related problems, typical drinking day and time, number of standard drinks in a typical week, and maximum number of drinks on a single occasion during the last 30 days</li> </ul> </li> <li>• Program participants would take part in a draw for 10 vouchers worth €50</li> </ul>
Haug et al. [45] (Switzerland)	<p><b>Purpose:</b> Increase smoking cessation and reduce cigarettes consumption in vocational school students</p> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• SMS-COACH, an SMS two-way text message-based intervention over a period of 3 months</li> <li>• The intervention program consisted of: <ol style="list-style-type: none"> <li>1. An online assessment of individual smoking behavior and attitudes toward smoking cessation</li> <li>2. A weekly SMS text message assessment of smoking-related target behaviors sent at a fixed time point each week (6 pm on the weekday of study registration). Participants replied with a single letter or number.</li> <li>3. 2 weekly text messages tailored to the data of the online and the SMS text message assessments</li> <li>4. An integrated quit day preparation and relapse-prevention program</li> </ol> </li> <li>• Included cognitive behavioral and motivational components that were based on the Health Action Process Approach (HAPA) and its different stages: 3 non-active stages (pre-contemplation, contemplation, and preparation) and 2 active stages (action and maintenance).</li> </ul>

	<ul style="list-style-type: none"> <li>• The HAPA stage was assessed in even weeks and the number of cigarettes smoked per day or week was assessed in odd weeks</li> <li>• Content of text messages was tailored according to participants' HAPA stage and data gathered at baseline and a weekly assessments</li> <li>• Participants received: <ul style="list-style-type: none"> <li>◦ A total of 37 text messages (1 welcome message, 11 assessment messages, 24 tailored feedback messages, 1 goodbye message).</li> <li>◦ Plus additional 42 text messages if they used the quit day preparation and relapse-prevention as 2 daily text messages from 1 week before the scheduled quit date until 3 weeks afterwards</li> </ul> </li> <li>• All incoming and outgoing text messages were automatically recorded, and all incoming messages were analyzed immediately</li> <li>• Equivalent of €8 was offered as reimbursement with an equivalent of €0.80 offered as reimbursement for each SMS text message response to the weekly SMS text message assessments in the program</li> </ul> <p><b>Control:</b></p> <ul style="list-style-type: none"> <li>• Participants did not receive any of the intervention elements of the SMS-COACH program</li> <li>• Equivalent of €8 was offered as reimbursement</li> </ul>
Bowen et al. [47] (United States)	<p><b>Purpose:</b> Improve oral hygiene compliance and reduce plaque formation in orthodontic patients</p> <p><b>Intervention and Control:</b></p> <ul style="list-style-type: none"> <li>• Both watched an audiovisual presentation on how to properly brush with a conventional toothbrush</li> </ul> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• Generic text messages 2-3 weekly for 4 weeks with a total of 12 messages, then once weekly for 8 weeks</li> <li>• Messages emphasized the importance of oral hygiene and served as a reminder for brushing their teeth as well</li> <li>• Text limit was 160 for all messages</li> <li>• Automated text messages were sent through Televox platform</li> <li>• No customization for time of delivery</li> <li>• Participants names were not revealed in the text messages</li> <li>• All teeth photographs both groups were taken with the same professional camera with digital image analysis by Digimizer</li> </ul>
Lau et al. [48] (Hong Kong)	<p><b>Purpose:</b> Promote physical activity in school age children</p> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• Internet PA program accessed twice weekly: <ul style="list-style-type: none"> <li>◦ Utilized an existing previously tested program, Teenstep.com</li> </ul> </li> <li>• Text-messages: <ul style="list-style-type: none"> <li>◦ Daily text messages in weekdays</li> <li>◦ Adapted from previous SMS-based health behavior interventions</li> <li>◦ Constructed to imitate a colloquial dialogue with a virtual friend "Jackie" to establish rapport as human-human interactions</li> <li>◦ Message topics focused on motivation, information, behavioral skills, re-enforcement of PA benefits or solutions for PA barriers</li> <li>◦ Participants were offered monthly incentives (e.g. water bottles), and \$30 every month to cover the costs of SMS messages</li> </ul> </li> <li>• School teachers facilitated the process of student enrollment and study assessments at baseline and at the end of the study</li> </ul>
Abraham et al. [49] (Hong Kong)	<p><b>Purpose:</b> Improve weight management</p>

	<p><b>Text/Internet Intervention:</b></p> <ul style="list-style-type: none"> <li>• Usual care and web- or internet-based intervention</li> <li>• 12-week online curriculum</li> <li>• Quiz at the end of each lesson</li> <li>• Cell phone text messages follow up over 6 months</li> <li>• Participants set specific goals related to diet and physical activity (baseline and monthly)</li> <li>• Weekly semi-personalized messages that incorporated participant’s diet and physical activity goals</li> <li>• Participants replied with an emotion icon to represent their status with their goals for that week</li> </ul> <p><b>Simplified Lifestyle Modification Intervention:</b></p> <ul style="list-style-type: none"> <li>• Usual care and four meetings with a nutritionist over three months</li> <li>• Patient-centered approach and cognitive behavioral concepts to improve diet and exercise knowledge and ways to change long term lifestyle</li> </ul>
<p>Sachse et al. [52] (Germany)</p>	<p><b>Purpose:</b> Improve sun-protection knowledge and behavior in organ transplant recipients</p> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• In-person training session by a dermatologist: <ul style="list-style-type: none"> <li>○ 5-hour dermatological sun protection training</li> <li>○ Theory-based topics were covered, including skin types according to photo-typing scale, UV-rays, UV-index, sunscreen use, textile photo-protection, skin self-examination, and applying mnemonic ABCDE when evaluating skin lesions</li> <li>○ UV-index was defined as the maximum daily level of local UV-rays</li> <li>○ UV-index in the daily text messages was called “sun protection traffic light”, as green, yellow and red</li> <li>○ All participants examined for any skin or mucosal disorders</li> </ul> </li> <li>• Text messages: <ul style="list-style-type: none"> <li>○ Sun protection recommendations were sent daily for 4 weeks</li> <li>○ Content of text reminders were derived from participants local UV-index, based on German Meteorological Service</li> <li>○ Each message had 2 components: <ol style="list-style-type: none"> <li>1. Individual UV-index traffic light and 10 am local weather forecast every day</li> <li>2. Behavioral “prompt” or message, such as sun-safe clothing and wearing sunglasses</li> </ol> </li> </ul> </li> </ul>
<p>Matheson et al. [53] (United States)</p>	<p><b>Purpose:</b> Increase HPV vaccination series completion rate</p> <p><b>Planning and enrollment:</b></p> <ul style="list-style-type: none"> <li>• Educational sessions with clerical, clinical and provider groups in clinic to explain the goals and flow of the project</li> <li>• Clinical staff provided patients/parents with HPV vaccination information sheets, and providers discussed it afterwards</li> <li>• If patients/parents initiated the HPV vaccine, text messages enrollment was offered</li> <li>• Participants completed enrollment form, but also had to complete an opt-in process using their personal phones</li> <li>• Patients were enrolled in the study over a period of 3 month, with a total follow up of 8 month</li> </ul> <p><b>Intervention:</b></p> <ul style="list-style-type: none"> <li>• Three generic text messages were sent per HPV vaccine dose: 7 days before due date, on due date, and 7 days after due date</li> <li>• Message was always the same and read “You are due for your next vaccine dose. Please call our office at xxx-xxx-xxxx if you have not yet completed a vaccine only appointment”</li> <li>• Automated messages were sent through Call-Em-All platform</li> </ul>

Note: Control groups were included in the table only if they had important relevant details to describe.

EMD: electronic monitoring device  
HPV: human papilloma virus  
PA: physical activity  
STIs: sexually transmitted infections  
UV: ultra-violet