



# CONSORT 2010 checklist of information to include when reporting a randomised trial\*

Section/Topic	Item No	Checklist item	Reported on page No
<b>Title and abstract</b>			
	1a	Identification as a randomised trial in the title	N/A
	1b	Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts)	N/A
<b>Introduction</b>			
Background and objectives	2a	Scientific background and explanation of rationale	3-5
	2b	Specific objectives or hypotheses	5
<b>Methods</b>			
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio	19
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons	N/A
Participants	4a	Eligibility criteria for participants	20
	4b	Settings and locations where the data were collected	19
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered	19
Outcomes	6a	Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed	21
	6b	Any changes to trial outcomes after the trial commenced, with reasons	N/A
Sample size	7a	How sample size was determined	N/A
	7b	When applicable, explanation of any interim analyses and stopping guidelines	N/A
<b>Randomisation:</b>			
Sequence generation	8a	Method used to generate the random allocation sequence	N/A
	8b	Type of randomisation; details of any restriction (such as blocking and block size)	N/A
Allocation concealment mechanism	9	Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned	N/A
Implementation	10	Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions	N/A
Blinding	11a	If done, who was blinded after assignment to interventions (for example, participants, care providers, those	N/A

		assessing outcomes) and how	
Statistical methods	11b	If relevant, description of the similarity of interventions	19
	12a	Statistical methods used to compare groups for primary and secondary outcomes	21-4
	12b	Methods for additional analyses, such as subgroup analyses and adjusted analyses	21-4
<b>Results</b>			
Participant flow (a diagram is strongly recommended)	13a	For each group, the numbers of participants who were randomly assigned, received intended treatment, and were analysed for the primary outcome	19
	13b	For each group, losses and exclusions after randomisation, together with reasons	N/A
Recruitment	14a	Dates defining the periods of recruitment and follow-up	N/A
	14b	Why the trial ended or was stopped	N/A
Baseline data	15	A table showing baseline demographic and clinical characteristics for each group	Table 1
Numbers analysed	16	For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups	N/A
Outcomes and estimation	17a	For each primary and secondary outcome, results for each group, and the estimated effect size and its precision (such as 95% confidence interval)	N/A
	17b	For binary outcomes, presentation of both absolute and relative effect sizes is recommended	N/A
Ancillary analyses	18	Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing pre-specified from exploratory	N/A
Harms	19	All important harms or unintended effects in each group (for specific guidance see CONSORT for harms)	N/A
<b>Discussion</b>			
Limitations	20	Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses	18
Generalisability	21	Generalisability (external validity, applicability) of the trial findings	14-8
Interpretation	22	Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence	14-8
<b>Other information</b>			
Registration	23	Registration number and name of trial registry	2, 20
Protocol	24	Where the full trial protocol can be accessed, if available	20
Funding	25	Sources of funding and other support (such as supply of drugs), role of funders	24

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\*We strongly recommend reading this statement in conjunction with the CONSORT 2010 Explanation and Elaboration for important clarifications on all the items. If relevant, we also recommend reading CONSORT extensions for cluster randomised trials, non-inferiority and equivalence trials, non-pharmacological treatments, herbal interventions, and pragmatic trials. Additional extensions are forthcoming: for those and for up-to-date references relevant to this checklist, see [www.consort-statement.org](http://www.consort-statement.org).

Supplementary Note 1  
CIAN Exit Interview Questions

1. What did you think about your sleeping habits before this program and what do you think now?
2. What did you think about your alcohol consumption before this program and what do you think now? What about any other substances, if relevant?
3. Before starting this program, how did you think your sleeping habits compared to other people your age?
4. Before starting this program, how did you think your drinking habits compared to other people your age?
5. Have you acquired any new habits because of this study that you will continue going forward?
6. Tell us your reactions to the different part(s) of the study? Were any of them helpful/or not helpful (if any) and why:
  - a. The website
  - b. Knowing your habits were being monitored through biosensors
  - c. Monitoring your habits yourself ( $A+SM$ ,  $A+SM+F$  groups only)
  - d. Receiving feedback on your habits as they were monitored ( $A+SM+F$  group only)
7. Which of the above parts were most influential in changing your habits?
8. If this program was not paid, do you think you would have still completed all necessary program components?
9. What drew you to this program? What did you like or dislike about the advertisement?
10. What helped to keep you participating once it started? Were there times when you thought of dropping out of the program?
11. What other habits would you have been interested to receive feedback about...
  - a. that our devices and diaries measure (light, exercise, caffeine)?
  - b. that would require a new device or diary question to measure?

# Supplementary Note 2

## Exit Survey

Please complete the survey below. Thank you!

Record ID \_\_\_\_\_

	Not at all satisfied		Neutral		Very satisfied
Overall, how satisfied were you with the Call it a Night program?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not at all helpful		Neutral		Very helpful
How helpful was Module 1 of the Call it a Night program? Module 1 covered basic information about sleep and how to establish a good sleep routine.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is there anything you would change about Module 1?  Yes  No

If yes, please explain

	Not at all helpful		Neutral		Very helpful
How helpful was Module 2 of the Call it a Night program? Module 2 covered common environmental factors that affect sleep.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is there anything you would change about Module 2?  Yes  No

If yes, please explain

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The layout of the modules was user-friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is there anything you would change about the layout?  Yes  No

If yes, please explain

Were the images relevant?  Yes  No

If no, please explain

Is there any additional content that you would like included on the website?  Yes  No

If yes, please explain

	Not understandable		Somewhat understandable		Very understandable
Compared with other health websites, how understandable was the content of Call it a Night?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not at all		Neutral		Very much
How much did you enjoy using this website?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The Call it a Night program was easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Call it a Night program visits worked with my schedule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Call it a Night program visits were not too long	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Through the Call it a Night program, I felt that I could achieve the healthy lifestyle goal changes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt comfortable during the Call it a Night program visits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because of the Call it a Night program, I felt like there was a hope for change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe the lifestyle habits targeted by this study are important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What was it like to wear the Actiwatch?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The Actiwatch was physically uncomfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wearing the Actiwatch was embarrassing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The Actiwatch interfered with my work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Actiwatch interfered with my exercise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Actiwatch interfered with my sleep	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Actiwatch interfered with my ability to concentrate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Actiwatch interfered with my choice of clothing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often forgot I was even wearing the Actiwatch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I did not have to change my daily routine (or give anything up) in order to comply with wearing the Actiwatch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be willing to wear the Actiwatch for another week	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be willing to wear the Actiwatch again in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Did you notice any side effects from wearing the Actiwatch?**

	1 (not noticeable)	2	3	4	5	6	7	8	9	10 (unbearable)
Itching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sweating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skin irritation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Did you have any marks on your skin from the Actiwatch?  Yes  No

What was it like to wear the Milo alcohol sensor?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The Milo sensor was physically uncomfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wearing the Milo sensor was embarrassing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Milo sensor interfered with my work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The Milo sensor interfered with my exercise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Milo sensor interfered with my sleep	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Milo sensor interfered with my ability to concentrate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Milo sensor interfered with my choice of clothing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often forgot I was even wearing the Milo sensor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I did not have to change my daily routine (or give anything up) in order to comply with wearing the Milo sensor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be willing to wear the Milo sensor for another week	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be willing to wear the Milo sensor again in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it easy to remember to replace the cartridge on the Milo sensor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it easy to remember to charge the Milo sensor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Did you notice any side effects from wearing the Milo sensor?**

	1 (not noticeable)	2	3	4	5	6	7	8	9	10 (unbearable)
Itching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sweating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skin irritation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Did the Milo sensor leave any marks on your skin?  Yes  No

What was it like to wear the alcohol monitoring ankle bracelet?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The ankle bracelet was physically uncomfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wearing the ankle bracelet was embarrassing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The ankle bracelet interfered with my work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ankle bracelet interfered with my exercise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ankle bracelet interfered with my sleep	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ankle bracelet interfered with my ability to concentrate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ankle bracelet interfered with my choice of clothing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often forgot I was even wearing the ankle bracelet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I did not have to change my daily routine (or give anything up) in order to comply with wearing the ankle bracelet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be willing to wear the ankle bracelet for another week	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be willing to wear the ankle bracelet again in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Did you notice any side effects from wearing the alcohol monitoring ankle bracelet?**

	1 (not noticeable)	2	3	4	5	6	7	8	9	10 (unbearable)
Itching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sweating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skin irritation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Did you have any marks on your skin from the ankle bracelet?  Yes  No

What was it like to complete the daily diary entries?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I found it helpful to complete my daily diary entry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it easy to complete my daily diary entry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it burdensome to complete my daily diary entry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



I did not have to change my daily routine (or give anything up) in order to complete my diary entry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to remember to fill out my daily diary entry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoyed completing my daily diary entry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If the daily diaries were part of a mobile health application, I would continue to complete them going forward	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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If you could change anything about the diaries, what would you change?

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	Not at all helpful		Neutral		Very helpful
How helpful was it to receive personalized information about your sleep profile?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Is there anything you would change about the type of personalized sleep information received?  Yes  No

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If yes, please explain

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	Not at all helpful				Very helpful
How helpful was it to receive personalized information about your alcohol consumption?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Is there anything you would change about the type of personalized alcohol information you received?  Yes  No

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If yes, please explain

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Would you recommend this program to a friend or family member?  Yes  No

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If no, please explain

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What do you think was the purpose of this program?

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How effective do you think the Call it a Night program was at achieving this purpose?

Not at all effective	<input type="radio"/>	<input type="radio"/>	Neutral	<input type="radio"/>	<input type="radio"/>	Very effective	<input type="radio"/>
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**Supplementary Table 1***CIAN Latent Dirichlet Allocation Topic Analysis Definitions and Quotes (N = 112)*

Topic	Definition	Example Quote
Awareness with monitoring	Active smartphone diary self-monitoring and passive monitoring through wearable biosensors increased participants' awareness and mindfulness of their behaviors.	"It [the biosensors] just made me more aware of everything that I was doing in my day and...knowing that I had to do the sleep diary the next day and...people were watching what I was doing...I was just more aware of my habits."
Web advice improves sleep	Participants began to improve their sleep using sleep hygiene strategies, especially through web-based advice.	"My sleeping habits were definitely awful before now, and I think they've improved a lot, since starting this [study]...I'm starting to go to bed earlier and...reduce my activities before bed."
Sleep strategy barriers	Participants had challenges implementing sleep hygiene strategies, such as situational factors or personal factors.	"This summer, I'm definitely going to try to...fix my sleep schedule. It's just hard...because the end of...the school year, it's...a lot of work to do."
Changing poor sleep	Participants experienced poor sleep quality or nonrestorative sleep, and this motivated them to join the study and learn more about different factors that impact sleep.	"I saw this one [study] and it was particularly relevant to me because I just don't get good night sleep a lot, so it just seemed really interesting."
Learning and reduced drinking	Participants gained new information from digital sleep interventions and began attempting to cut back on their drinking.	"The alcohol consumption before the program...I never really thought much of it...but after seeing the data...that was definitely eye opening. I never knew how to calculate my BAC level or anything like that."
Using feedback and web advice	Participants integrated personalized feedback and coaching with web-based advice, including information and strategies, to alter their sleep and alcohol use.	"When I got the [data] results [during feedback], I think that was the most influential part, just actually seeing what was going on and...having it put in front of you... if I'm more educated...I'm probably going to be more inclined to fix them [my habits], because I know I have my own issues with them."
Multiple strategies and factors	Various sleep-related factors, such as situations, environments, substances other than alcohol, and diet and exercise, can have an impact on participants' sleep.	"Our house right now is right next to construction, and the school has the agreement with the company that they're not allowed to start before 6:30, but they always do...we're always woken up."
Strategies, not biosensors	Participants found the website helpful and were attempting to use sleep hygiene strategies, but they had challenges with wearable biosensors, especially the ankle alcohol biosensor.	"The website had a lot of good information...definitely helped me to learn...the mechanics of sleep...There was a couple of times when I was...trying to go to sleep and the...ankle monitor bothered me."
Feedback, not biosensors	Personalized feedback was especially beneficial for participants, but wearable biosensors were burdensome at times.	"Habits just feel so personal...so having that sort of feedback, both the data and just the explanation behind it, I think that's a really...unique insight...I don't know how you hide an ankle bracelet from...pretty much everyone around you, if you're...not stuck inside your apartment."

**Supplementary Table 2**

*CIAN Thematic Analysis Definitions and Quotes (N = 107)*

Thematic Category	Theme	Definition	Example Quote
Helpful aspects of web-based advice	General helpfulness of web-based advice	The web-based advice was generally relevant, useful, or interesting to the participant.	“They [the web advice modules] just gave useful information...things that I thought could help.”—76
	Helpful sleep-related information	Web-based advice information related to sleep (e.g., environmental impacts) was helpful.	“I think the particularly helpful ones [tips] were...things to do when you wake up, because I think part of my problem is, when I wake up, I just don't want to get out of bed, so I'll...stay in bed on my phone for a long time.”—113
	New information from the web-based advice	The web-based advice information was new to the participant, and, therefore, more helpful.	“The website last week, I thought that was very helpful... There was a lot of things that I was just surprised about.”—103
	Reminders of known information	The web-based advice information was known to the participant, but the reminders were helpful.	“Seeing information again always reinforces it.”—61
	Usefulness of web-based advice strategies	The strategies (techniques, tips) through web-based advice were helpful for sleep and/or alcohol use.	“It [the web-based advice] talked about...your body temperature...keeping a window open or having a fan to keep your body [cool]. It's good to help you go to sleep faster.”—67
	Web-based advice understandability	The web advice information was understandable, readable, and easy to digest.	“I thought it [the web advice] was a pretty concise way to...put down a lot of information.”—48
	Helpful alcohol-related information	Web advice information related to alcohol (e.g., BAC levels compared to others) was helpful.	“I think the alcohol [information]...was helpful too...based on...how long you're drinking for and your activity during the day, and how alcohol can affect you.”—113
	User-friendliness of web-based advice Memorability of information	The web advice was easy to use and/or attractive through its layout and icons. The information on the web advice was easy to remember later.	“It [the web advice] was very...appealing to...look at.”—34 “I think that it's good that...there's a summary page [on the web advice]...because it's...a lot of information to take and...remember, so it's good to have...the key points on it.”—35
Unhelpful aspects of web advice	Lack of new information	The web-based advice information was known to the participant, and, therefore, unhelpful.	“Most of them [the web advice tips] I had seen before from...being a server...I knew all the...alcohol content...what a standard drink was...So, in that regard, it wasn't that helpful.”—20

	Irrelevance of information	Some web-based advice information (e.g., marijuana use) was described as irrelevant to participant (even if research team thought it was).	“There were certain [web advice] pages that were not helpful to me...like marijuana or like CNS stimulants...I don't partake in those.”—35
	Difficulty implementing strategies	Participants had challenges using new web-based advice strategies (e.g., breathing tips).	“It's not like I don't know that all of these things [strategies] make better...higher quality sleep, it's just that it's hard to incorporate them.”—81
Helpful aspects of biosensors	Ankle alcohol biosensor increased awareness	The participants' awareness increased due to knowing the ankle alcohol biosensor was taking readings independently of seeing the data.	“The physical monitors all over you...they definitely make you...think like, ‘Wow...should I really be drinking this much?’”—66
	General helpfulness of biosensor(s)	One or both of the biosensors was generally relevant, useful, or interesting to the participant.	“I thought it [the passive monitoring] was helpful...that was my intent [in this study] to have my sleep monitored.”—94
	Sleep watch biosensor increased awareness	The participants' awareness increased due to knowing the sleep watch biosensor was taking readings independently of seeing the data.	“If I saw my sleep watch before I was going to bed, I was like, ‘You know what, I should probably try and go to bed early tonight.’”—63
Neutral aspect of biosensors	Neutral aspect of biosensors	The biosensors were neither helpful nor unhelpful, went unnoticed, or the lack of behavior change was not considered helpful or unhelpful.	“It [wearing the biosensors] didn't bother me, it didn't really make me change any of the things that I would have done otherwise.”—44
Unhelpful aspects of biosensors	Burdensomeness of ankle alcohol biosensor	The ankle alcohol biosensor was inconvenient, annoying, or uncomfortable (e.g., itchy) and the participant wanted to remove it.	“I just really didn't like the [ankle] device...couldn't run as much.”—49
	Unhelpful without data feedback	Wearing the biosensors alone was not helpful without seeing the data collected. This includes participants not in the feedback group wishing they could see their data.	“Depending on what it [the biosensor data] said, I would have made the relevant changes if...they were in my control. But...I wouldn't know [without the data].”—86
	Lack of behavior change	Wearing the biosensors did not affect the participant's behaviors and this was generally framed as unhelpful.	“The devices are just there, they don't...teach you.”—54
	Burdensomeness of sleep watch biosensor	The sleep watch biosensor was accidentally forgotten, annoying, or uncomfortable (e.g., itchy) and the participant wanted to remove it.	“I know sometimes I was like, ‘Oh shoot, I have to press the button on the watch!’ But then I may have pressed it...twice.”—112
	Stigma of ankle alcohol biosensor	Wearing the ankle alcohol biosensor was stigmatizing, embarrassing, or socially uncomfortable.	“There was a certain shame factor to having the ankle monitor on.”—99
	Ankle alcohol biosensor increased drinking	The participant felt they should drink more while wearing the ankle alcohol biosensor to ensure it was tracked or their BAC was measured.	“I feel like the alcohol monitor made me kind of want to drink more.”—125
Helpful aspects of smartphone diary self-monitoring	Increased mindfulness of sleep	Answering the self-monitoring questions increased the participant's mindfulness of their sleep.	“I found it...helpful to...realize it [my sleep schedule] and...just reflect on...my lifestyle and...how much sleep I'm actually getting.”—106
	General helpfulness of self-monitoring	The self-monitoring questions were generally relevant, useful, or interesting to the participant.	“I thought it was helpful to write it all down.”—40

	Increased mindfulness of alcohol use	Answering the self-monitoring questions increased the participant's mindfulness of their alcohol drinking.	"I...never really...used to like keeping track [of drinking]. So, I'd...drink a lot, and then I'd feel too drunk. So, then I'd stop drinking...it was definitely tough for me to monitor the amount of drinks that I was doing."—26
	New experience of self-monitoring Ease of answering questions	The participant noted that they have never journaled in the past. Answering self-monitoring questions was easy, user-friendly, or took minimal time. This included participants stating it was easy to remember what happened the day before.	"That [self-monitoring] was the first time doing it."—83 "It [the self-monitoring] was a really...easy and quick process, so I didn't mind it at all."—71
	Motivation to change behaviors	The self-monitored questions motivated the participant to change their behavior (e.g., exercise more).	"The strongest...reminders that made me improve my sleep or made me try in the first place, and I think that the physical reminders as well as the mental ones with the daily diaries were good."—41
Neutral aspect of smartphone diary self-monitoring	Neutral aspect of self-monitoring	The self-monitoring was neither helpful nor unhelpful, went unnoticed, or the lack of behavior change was not considered helpful or unhelpful.	"I didn't think it [the self-monitoring] was helpful or unhelpful. I mean it generally just happened."—88
Unhelpful aspects of smartphone diary self-monitoring	Challenges answering questions	Answering self-monitoring questions was challenging (e.g., took too much time).	"[I thought] 'I don't know what time I actually fell asleep,' and I'm not going to pick up my phone [to check the time], because I don't want a bright light [at night]. [When] I'm falling asleep, the last thing I want to do is grab my phone."—104
	Lack of behavior change	Answering the self-monitoring questions did not change the participant's behaviors and this was generally framed as unhelpful.	"All it [the self-monitoring] did was tell me when I went to sleep and woke up."—71
	Lack of new information	The participant noted that their self-monitoring answers were already known and, therefore, unhelpful.	"It's [my self-monitoring answers] just kind of...all information I already knew."—27
Helpful aspects of feedback on biosensor and smartphone diary data	Helpfulness of personalization	Seeing one's individual data (self-monitoring and biosensors) and/or hearing suggestions based on data was especially helpful.	"Having that sort of feedback, both the data and just the explanation behind it, I think that's a really...unique insight into...a part of yourself that...most people wouldn't ever really get to actually see mapped out."—101
	General helpfulness of feedback	The feedback was generally relevant, useful, or interesting to the participant.	"I thought that [the feedback] was very helpful...It was interesting to see."—15

	Helpful data presentations	The way data were presented (e.g., graphic layouts, aggregate averages) was helpful.	“She [the coach] made it very easy for me to understand the charts and what everything meant.”—87
Unhelpful aspect of feedback on biosensor and smartphone diary data	Lack of new information	The individual data or tips from feedback was already known to the participant.	“I definitely [already] noticed that I drank a lot on that Saturday, but that was also because I was out doing stuff, so that I don't think would...had that big of [an] effect [to see that data].”—23
Most influential interventions	Feedback was most influential	The feedback had the most impact on participant's alcohol use and sleep behaviors.	“I'd definitely think the feedback was the most influential in changing my habits. I think because it was...my favorite, so it was really eye opening.”—125
	Web-based advice was most influential	The web-based advice had the most impact on participant's alcohol use and sleep behaviors.	“Probably the website [was most influential], because [with] the monitors [biosensors], I just went along with my daily life, so I could see how it is usually.”—127
	Self-monitoring was most influential	The self-monitoring had the most impact on participant's alcohol use and sleep behaviors.	“I think the daily diaries [were most influential] because it helped me really keep track of what I was doing and be disciplined in doing that every day.”—120
	Biosensors were most influential	The biosensors had the most impact on participant's alcohol use and sleep behaviors.	“They [the biosensors] definitely...reinforce [your goals] and, in my opinion, like it made me think a little bit.”—66
	Multiple things were helpful	Multiple interventions had the most impact on participant's alcohol use and sleep behaviors.	“I think both [the web-based advice and biosensors], because the websites...gave me...an outlook at things, and...the sensors...made me more aware of stuff...I knew, like I had to get to bed.”—25
Suggestions for interventions	Willing to wear more biosensors	Participant was willing to wear another biosensor(s) to receive more feedback.	“I'd wear another watch [to get more information].”—36
	Want diet and exercise-related feedback	Participant wanted feedback on their diet and exercise and the impacts.	“[I'd like to know] what time when you exercise, how it affects your sleep...what that does to...your whole body chemistry, everything.”—7
	Willing to complete new smartphone diary self-monitoring questions Want caffeine-related feedback	Participant was willing to complete another self-monitoring question(s) to receive more feedback.  Participant wanted feedback on their caffeine intake and its impacts.	“As far as [new self-monitoring] questions go...like, ‘On what level did you feel stressed?’ That type of thing [could be asked].”—104 “[I'd like to know about] caffeine consumption because that's one of those things that, if you don't pay attention to it, you just...go through 10 bags of tea in a day.”—116

Want other potential feedback	Participant wanted feedback on other measurable factors (e.g., stress, cognitive alertness).	“Maybe you can see how stressed you are during the...stretch of the week. Just get those numbers, and then I think that would be pretty interesting to figure [out].”—104
Want environment-related feedback	Participant wanted feedback on their environment (e.g., noise, light) and impacts.	“I think noise exposure would be good [to learn about], especially because...our house right now is right next to construction.”—21
Unwilling to add smartphone diary question and/or biosensor	Participant was not willing to complete another self-monitoring question(s) and/or is not willing to wear another biosensor(s), esp. ankle biosensor.	“Definitely no ankle monitor [to get new data]”—63
Improvements for feedback	Participant made suggestions about ways to improve how feedback is used in the study.	“In addition to just those every one-week summaries like last week, showing...what it [sleep and alcohol] was...over the past two weeks [would be helpful], cause then it'll...smooth out other...anomalies.”—10
Improvements for smartphone diary self-monitoring	Participant made suggestions about ways to improve how self-monitoring is used in the study.	“[A question could ask for] a better breakdown of...what specific things I drank...not just how many drinks, but...how many shots or how many beers...like a breakdown of separate questions.”—129
Improvements for biosensors	Participant made suggestions about ways to improve how biosensors are used in the study.	“If you could do away with the ankle one, that would be great.”—94
Improvements for web-based advice	Participant made suggestions about ways to improve how the web-based advice is used in the study.	“I just...prefer the list...people go online for BuzzFeed, and there's just...‘10 things to do to get more sleep.’...straight to the point...We had really good content [through the web-based advice], but it was just sometimes hard to find it.”—49