

Participant Reported Barriers and Facilitators During Home Blood Pressure Monitoring

Barriers	Facilitators
<ol style="list-style-type: none"> 1. Not at home/traveling (monitor not with them). 2. Forgot to take BP readings. 3. Distracted/busy with various activities (e.g., appointment, work, housework, caregiving). 4. Technical problem with BP monitor/cuff (e.g., unpairing, full memory, batteries dying, cuff too tight, error messages). 5. Concern about BP readings (e.g., too high, too low, or incorrect). 6. Challenges/difficulties with study specific procedure (e.g., 2x/day readings, Tru-Read (triplicates), how to take BP reading). 7. General emotional barriers (e.g., being sad, depressed, upset, anxious, worried, stressed, overwhelmed). 8. Sickness/pain due to health issues, illness, or surgery. 9. Falls asleep before taking BP; not getting enough sleep, or other sleep issue. 10. Issues with specific time periods (e.g., difficult to do AM readings, PM readings, or weekends). 11. Disruptions/lack of routine. 12. COVID-19—concern over pandemic, sickness, or caregiving. 13. Thought the study ended (due to COVID-19). 14. Concern over home-delivered meals. 15. Using another BP monitor (own or someone else’s). 16. BP monitor is heavy, takes up space, or not portable. 17. Not having hypertension (being told by doctor or believing this to be the case). 	<ol style="list-style-type: none"> 1. Visual--monitor is kept where participant can see it. 2. Routine--home BP reading is part of their daily routine; it is usually paired with another activity the participant does daily (e.g., using bathroom, taking medication, eating breakfast). 3. Reminders—different sources of reminders included ACL DASH staff, family, calendar, alarm, and phone. 4. Caring about health (e.g., blood pressure). 5. Caring about research. 6. Obligation—sense of duty being in study. 7. Familiarity—prior experience with self-home BP monitoring; they previously owned a BP monitor. 8. Curiosity about BP readings. 9. Having assistance when taking readings.

Comments about the Omron 10 home BP implementation

The home blood pressure device we chose, the Omron 10 Bluetooth monitor, is the most recent version of a consumer focused device optimized for patients to download and manage their own blood pressure files and forward files to their providers (or research team staff) via email. For digitally savvy patients or participants who are able to manage their own account registration, device synchronization, and downloads, this device is very convenient and could work in replication of a research project with home blood pressure monitoring,

In our study, since a significant fraction of the participants had limited experience with digital devices, the study team set up individual accounts for each participant, synchronized their devices to their online accounts at download visits, paired them to tablets for downloading, and when the downloads malfunctioned, manually recorded the data or collected photographs of the device screens. With 100 devices, accounts, and pairings to manage at every update, the data collection involved a large amount of

effort and logistics, ongoing. When the pandemic imposed social distancing, managing the devices and downloads remotely via telephone conversations with seniors proved even more challenging.

For participants who are not smartphone and internet savvy and cannot manage the remote data transfer on their own, we would not recommend replicating our implementation. We would recommend exploring other platforms with direct transfer of data, home-bp -monitoring buddies.