

Dot-to-Dot

Help your members connect
the dots on their health habits



How lifestyle changes
correlate with blood
pressure, including
insights on walking
patterns and heart health



Do you know how walking impacts your heart health? The answer might surprise you.

Hello Heart's Dot-to-Dot is a breakthrough artificial intelligence (AI) feature that helps people understand how their lifestyle choices – like taking a walk – may be influencing their heart health. Something as easy as a little walking, when combined with smart insights, can help drive sustained blood pressure reduction. While the link between exercise and improved heart health is well-established,¹ not everyone may realize the benefits of simple changes.

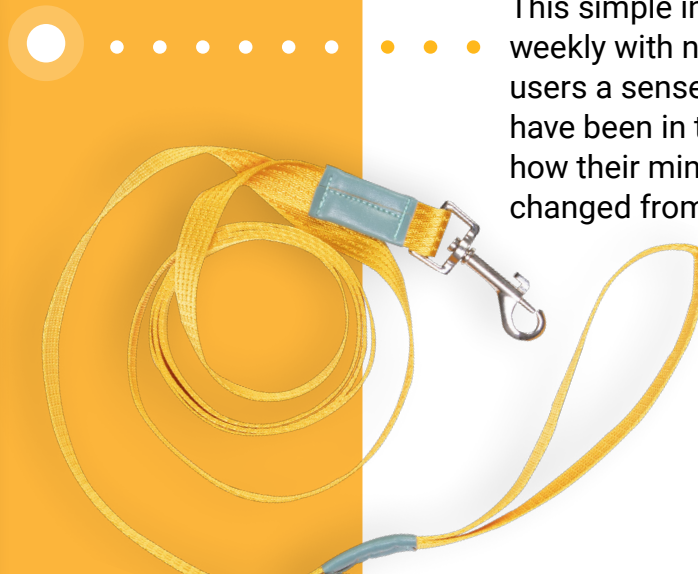
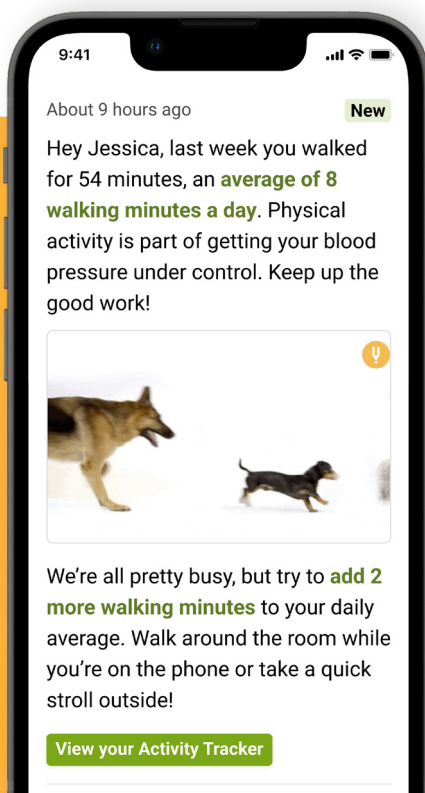
Dot-to-Dot helps users see personalized trends in how their choices, such as weekly minutes walked or whether they took their medication, affects their blood pressure. Understanding how the dots are connected puts users in the driver's seat, empowering them with the insights they need to build lasting healthy habits – like keeping up the habit of walking.

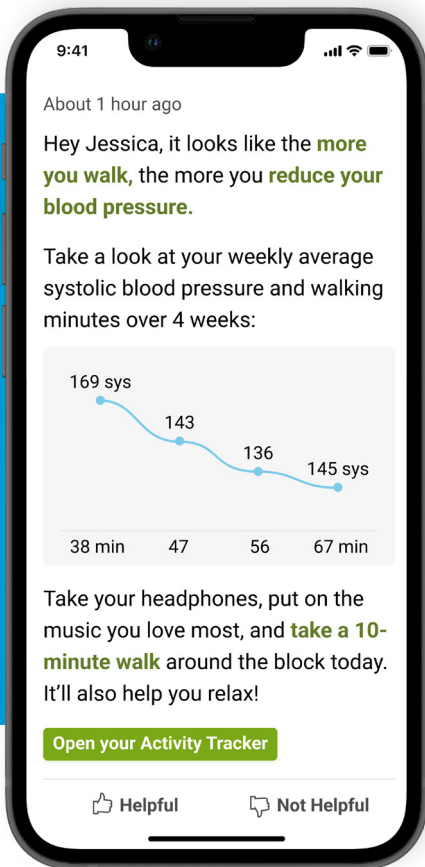
So how does it work?

To drive industry-leading clinical outcomes in systolic blood pressure reduction,² Hello Heart provides digital coaching tips that help users make well-supported changes¹ and shows how those changes correlate with certain indicators of their condition. As one example, It educates users about their activity patterns to help them connect the dots with three, data-driven coaching tips.

1. Average number of minutes walked per week

This simple insight, updated weekly with new data, gives users a sense of how active they have been in the last week and how their minutes walked has changed from the prior week.



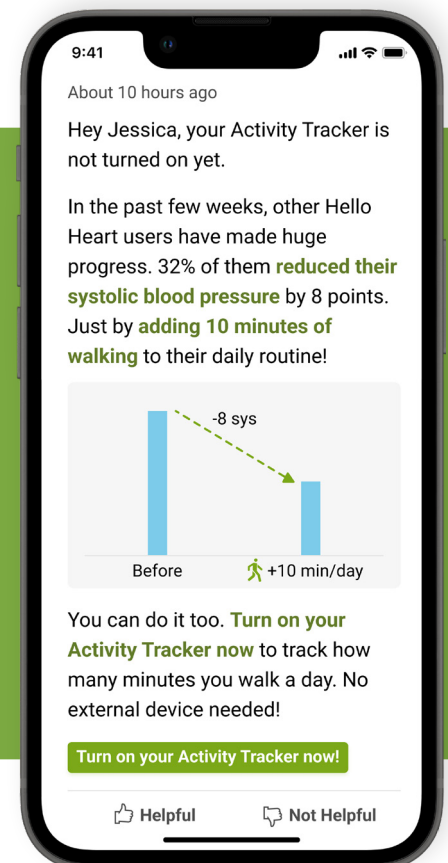


2. Relationship between the user's average number of minutes walked per week and their average systolic blood pressure in the same week

This personalized insight illustrates the correlation between walking and blood pressure for each user. While they may not feel symptoms from high blood pressure (which is why it is known as a silent killer) seeing patterns like this helps users understand how scientifically recognized lifestyle changes could impact their individual blood pressure. But what about users who haven't started sharing their walking activity in the app yet?

3. Average relationship from other users, with a prompt to enable activity tracking

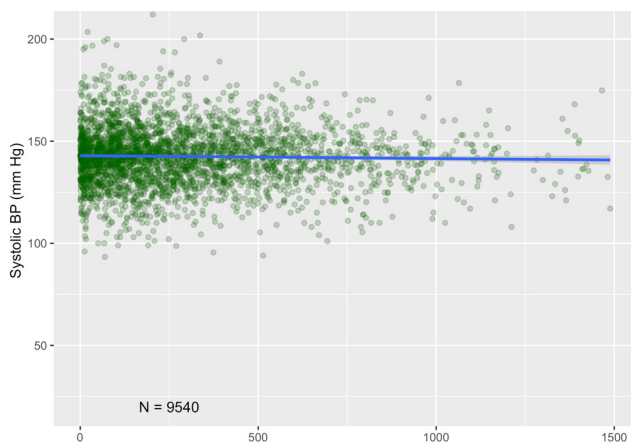
These insights are frequently updated with Hello Heart user data that users voluntarily add in the app. The most recent update on October 16, 2022, showed that out of 6,000 individuals whose increase in walking correlated with an improvement in blood pressure, an average increase of just 34 minutes walking per week was associated with an 8.7 mm Hg decrease in systolic blood pressure. To put that in perspective, a large, single participant meta-analysis published in *The Lancet* showed that just 5 mm Hg reduction in systolic blood pressure was associated with significantly reduced risk of cardiovascular disease events like a heart attack or stroke.³



Hello Heart data shows the effects of walking on blood pressure over time

Walking is well-known to have many health benefits.¹ Data from Hello Heart suggests that the absolute number of minutes walked per week is not associated with systolic blood pressure reduction (e.g., someone who walks 200 minutes per week may not have more substantial drops in blood pressure than someone who only walks 100 minutes). Instead, *increasing* the minutes that an individual walks per week and sustaining the additional walking minutes over time is associated with decreasing systolic blood pressure.

Plot A

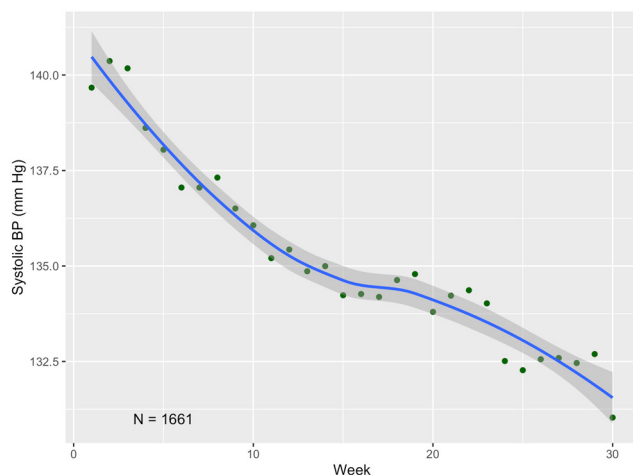


Plot A shows average systolic blood pressure vs. average minutes walked per week for all users who have enrolled this year



It doesn't look like there is any relationship. But when looking at users with stage 2 hypertension and *increased* minutes walking compared to their first week in the Hello Heart program, see what happens in Plot B.

Plot B



Plot B shows the average across users with stage 2 hypertension (systolic blood pressure over 140/90) who had a 30-minute or greater increase in minutes walked per week compared to when they started the program, to show their steady decline in systolic blood pressure



The data indicates that how much a hypertensive person walks in a week may matter less than a small, sustainable change and new habit creation. Just 30 minutes of increased walking each week and, most importantly, keeping it up weekly can have a significant impact on lowering blood pressure over time.

Simple changes and personalized digital coaching drive meaningful clinical results



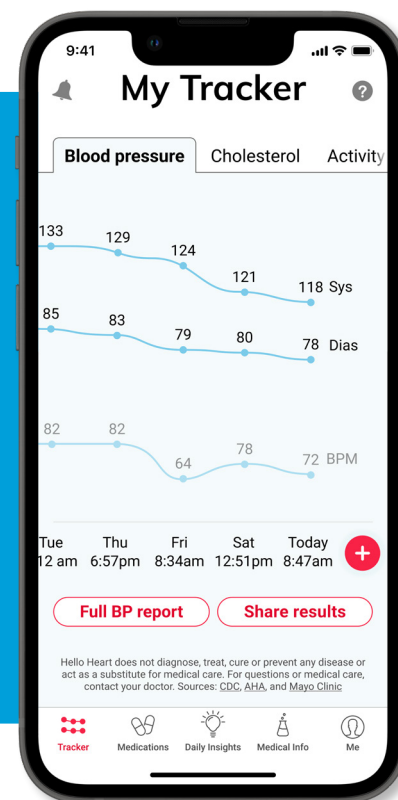
Hello Heart's Dot-to-Dot feature helps users connect the dots on their health habits by providing smart, personalized insights that help users see correlations between lifestyle choices and heart health. Until now, users could not easily see how their activity relates to their blood pressure. But now they can. Using AI-driven advanced technology, Hello Heart can help people understand how their choices correlate with their heart health by connecting the dots between trends in activity, weight, medication tracking, and more.



Building healthy habits

It's easier than you may think to make lasting change when you have the right data and insights to connect the dots. These small changes to build healthy habits can have a big impact on clinical outcomes. According to a peer-reviewed study published in *JAMA Network Open*, sedentary users who increased their physical activity reduced their blood pressure.²

As Hello Heart continues to innovate on its industry-leading solution for whole heart health, we will continue to leverage our incredibly rich and growing data set that allows us to continually uncover insights (such as walking patterns and connections to blood pressure) and evolve the solution to improve outcomes for users.



9:41

Jimmy Smith's blood pressure readings

June

128/84 **140/90**
Average in June Peak in June

Date and Time	Sys/Dias	BPM
06/01/22, 7:34 am	122/65	60
06/02/22, 8:34 am	140/90	72
06/04/22, 7:14 am	124/90	110
06/07/22, 7:11 am	122/84	74
06/08/22, 8:01 am	126/91	76
06/09/22, 7:44 am	125/79	110
06/10/22, 7:22 am	132/83	72
06/12/22, 7:03 am	115/69	80
06/13/22, 7:21 am	132/83	84
06/13/22, 7:24 am	132/83	72

Current systems and health records provide detailed health information often as isolated snapshots in time. Constructing longitudinal pictures of health over time and understanding the interplay of how a person's daily habits, medications, and lifestyle are affecting their health remains a challenge. Dot-to-Dot solves this problem and is truly game changing both in the information it can provide to clinicians as well as in the reinforcement of positive behaviors and lifestyle choices for the users.

Former Chief of Cardiovascular Surgery at Beaumont Health⁴

The insights I get from the Hello Heart app help me to hold myself accountable. I work from home, so sometimes it's easy to forget to get up and move. I love that I am reminded about what a difference even a little activity can make. Using Hello Heart to track my blood pressure readings regularly has really allowed me to take much more control over my heart health. The graphs and tips in the app really give me good understanding about my choices. It makes it easier to make better daily decisions about my heart health now and for the long run.

Hello Heart user from Tennessee

[View your Blood Pressure Summary](#)

About Hello Heart

Hello Heart is the only digital therapeutics company to focus exclusively on heart disease, the leading cause of death for U.S. adults. Through a connected device and mobile app that uses AI, behavioral science, and personalized digital coaching to drive lifestyle changes, Hello Heart delivers whole heart health. The program empowers people to embrace healthier behavior, which can reduce the risks of high blood pressure, high cholesterol, and heart disease. It also helps users catch blood pressure readings that are extremely high, as well as irregular heartbeat, encouraging them to talk to their doctor to identify potential risk in time.

Validated in peer-reviewed studies and trusted by leading Fortune 500 companies, Hello Heart is easy to use and works alongside an employer's benefits ecosystem. Founded in 2013, Hello Heart is a member of the American Heart Association's Innovators' Network and is part of the CVS Health Point Solutions Management program.



**Let's address
whole heart
health together**



REFERENCES

- ¹ Walking: Trim your waistline, improve your health. Mayo Clinic Web site. <https://www.mayoclinic.org/healthy-lifestyle/fitness/in-depth/walking/art-20046261>. Published May 19, 2021. Accessed October 31, 2022.
- ² Gazit T, Gutman M, Beatty AL. Assessment of Hypertension Control Among Adults Participating in a Mobile Technology Blood Pressure Self-management Program. *JAMA Netw Open*. 2021;4(10):e2127008, <https://doi.org/10.1001/jamanetworkopen.2021.27008>. Accessed October 31, 2022. (Some study authors are employed by Hello Heart. Because of the observational nature of the study, causal conclusions cannot be made. There were 108 participants with baseline blood pressure over 140/90 who had been enrolled in the program for 3 years and had application activity during weeks 148-163. See additional important study limitations in the publication.)
- ³ The Blood Pressure Lowering Treatment Trialists' Collaboration. Pharmacological blood pressure lowering for primary and secondary prevention of cardiovascular disease across different levels of blood pressure: an individual participant-level data meta-analysis. *Lancet*. 2021;397(10285):1625-1636. Accessed October 31, 2022.
- ⁴ Dr. Aggarwal is a Medical Advisor at Hello Heart.