The Nuna App: Initial Efficacy on a Rush Medicaid Population

Nuna is the *care team* in your pocket helping you keep your health on track

NUNA **RUSH**

The Problem

Almost half of Americans live with hypertension, with even higher rates for underserved, low-income, and systemically vulnerable populations.[1]

In the West Side of Chicago, residents expect 14 years' shorter lifespan than those living in a more affluent neighborhood just 4 metro stops away. While numerous socio-economic factors drive this unacceptable disparity, high disease prevalence and adverse outcomes overtly contribute to and result from this 'death gap'. Similar inequities exist nationwide.

Rush University Medical Center, which serves the west side of Chicago population, sees high relative prevalence of hypertension, and far-below average blood pressure control outcomes - 56% vs. ~76% national average.[2]

Clinically, hypertension precedes or exacerbates multiple other conditions like cardiac disease, kidney disease, etc. In many ways, hypertension acts as a foundational chronic disease. It's no surprise that a population with blood pressure control rates so far below national average also experiences such a substantially lower lifespan.

We have the means to clinically manage hypertension with medication and lifestyle modification. Yet, to-date, our field has only weak tools to support patients and care teams at the scale and dimensionality needed. Such tools should ensure patients consistently follow care plans, facilitate patient / provider transparency and, when warranted, enable proactive intervention by care teams.

Introducing the Nuna App
The Nuna App introduces a novel approach to patient activation and sustained behavior change. Nuna combines multiple modalities of behavioral economics and psychology, care team engagement, and silicon-valley consumer-grade ethos to create a digital experience for patients with chronic conditions. The Nuna App has measurably changed hypertension outcomes for Rush's patients living in the west side of Chicago, with results profoundly stronger than solutions Rush has tried in the past. The Nuna App accomplishes this at scale, requiring far less fixed and variable costs than existing solutions.

Impact: Sustained engagement + dramatic hypertension improvements
We offered the Nuna program to 133 Medicaid patients from the Medical Home Network (MHN) ACO. Patients were identified on the basis of their uncontrolled hypertension.[3] The program was very successful, as evaluated along three primary axes:

1. High adoption rate of the Nuna App

Eligible patients were very interested to try the Nuna program, with a 41% conversion rate. Of those who registered onto the app, 50% fully onboarded, meaning that they added at least one medication and took at least one blood pressure reading. The program had strong engagement: 93% 30-day, 84% 60-day, and 81% 90-day retention[4].

2. Sustained healthy habits

Habit formation is a key ingredient of sustained behavior change. Patients were remarkably consistent in formation, engagement, and consistency with the healthy habits seeded by the Nuna App[5]:

**44%** logged medications 5+ times / week

64% measured blood pressure 1+ / week; on average, 2 BP readings every three days

66% passed at least 1 health literacy quiz / week

47% met their activity target once+ / week

Several patients noted that the daily Nuna educational content had become a cornerstone to their morning routine, while others found that the medication reminders had enabled them to actually remember to take their medications daily.

User retention over 90 days

PERCENTAGE OF RETAINED USERS

30 Days (93%)   60 Days (84%)   90 Days (81%)

DAYS OF ENROLLMENT
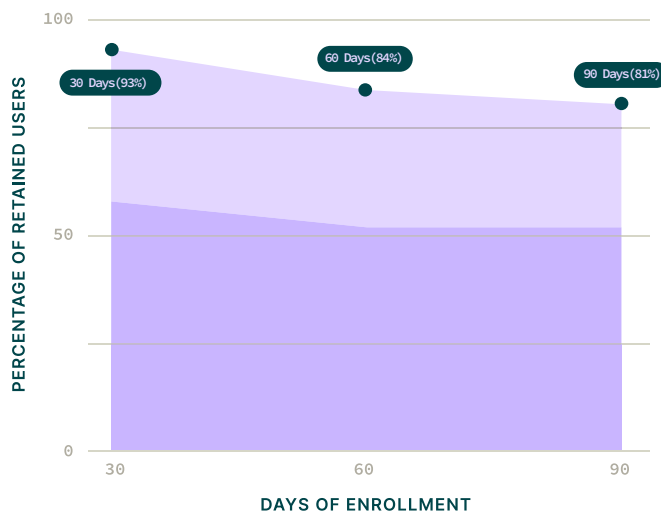
81%
Weekly
Active Users

72
Net Promoter
Score

Retention:

93% 30-day

84% 60-day

81% 90-day

3. Clear clinical efficacy

The onboarded patient cohort was identified because of their uncontrolled hypertension status - per a quality measure such as HEDIS, the cohort started out as 0% controlled. With the Nuna program, 63% achieved controlled status.[6] In terms of systolic blood pressure improvement, average systolic improvement since starting on the Nuna App was 15 mmHG vs the most recent in-clinic reading. Every 10mmHg improvement is associated with a ~20% reduction in risk for catastrophic cardiovascular events such as heart attack and stroke - indicating a substantial projected improvement in longer-term health outcomes for these patients.[7]

Controlled population
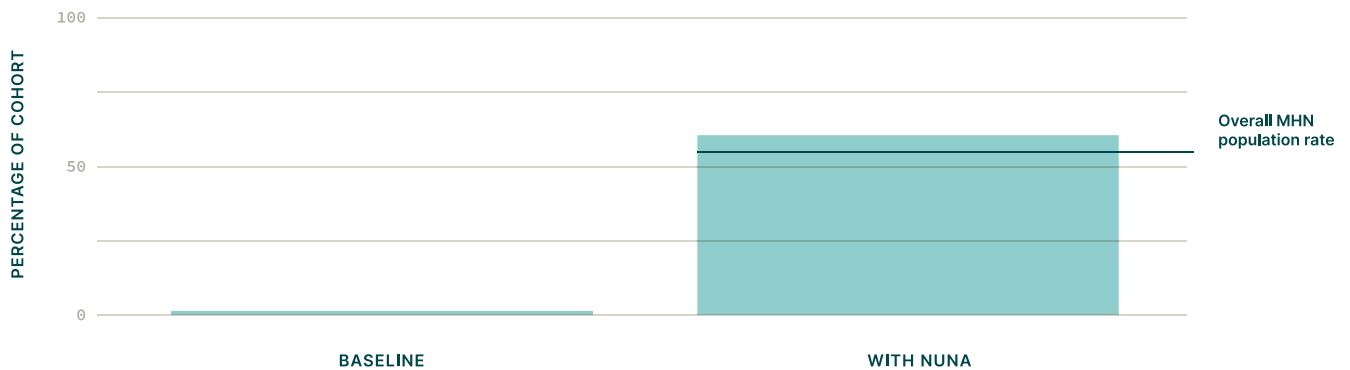
The patient cohort was identified due to their uncontrolled status (0% controlled). 65% of patients were controlled with Nuna.
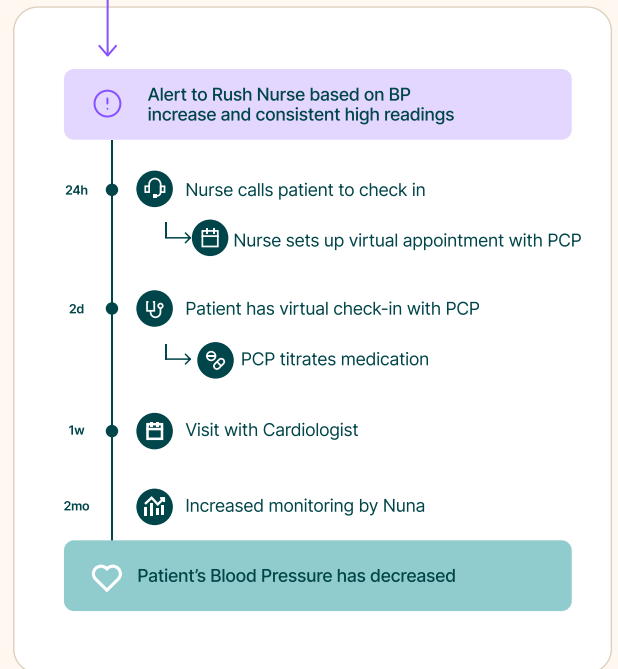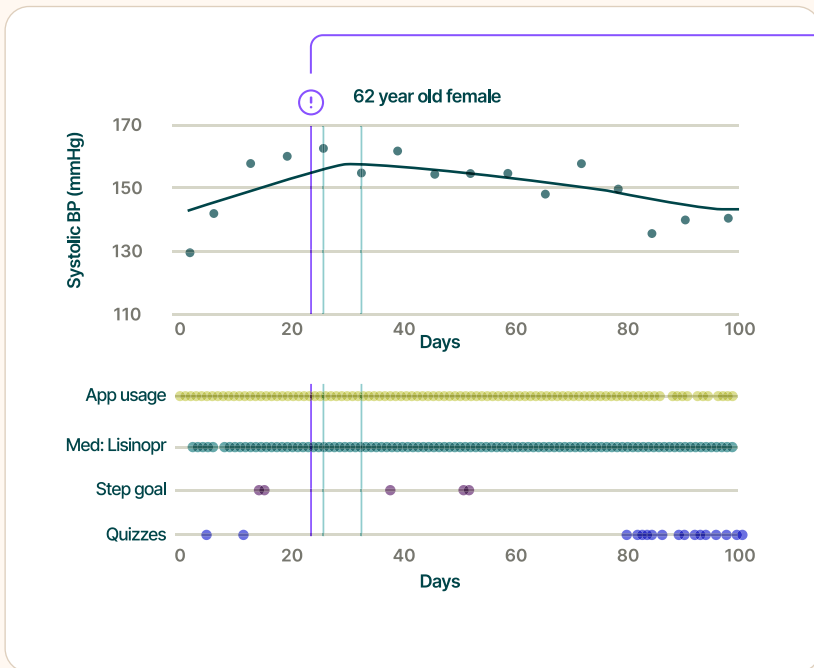
62 year old female
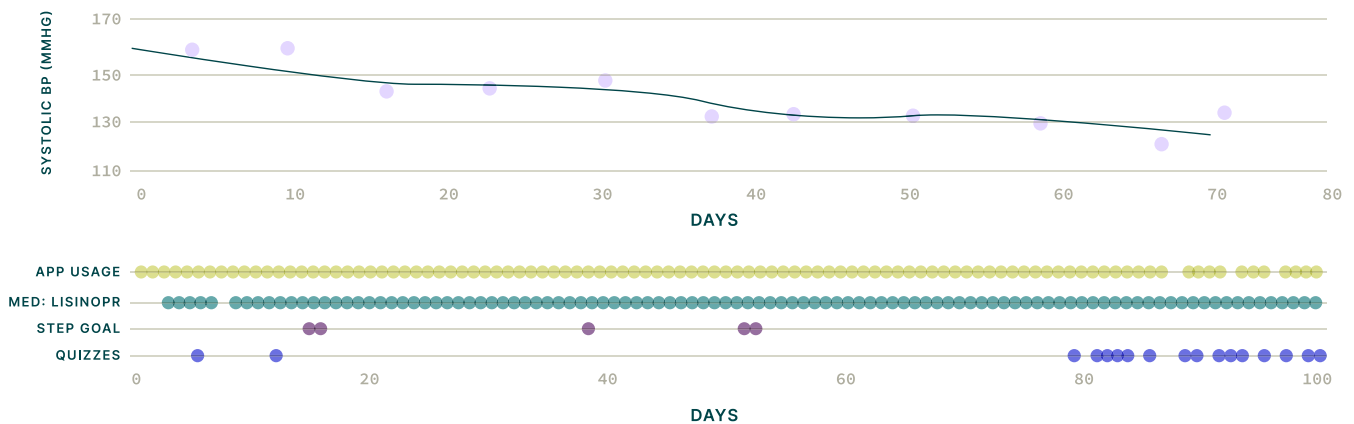
An example of the blood pressure improvement trajectory and usage patterns for a 62 year old woman in the program.

Case studies

When it doesn't work, it still works. The Nuna App can flag patients whose clinical status worsens before scheduled clinical encounters or progression into an acute state. This enables identification of those who are either medication resistant or newly worsening in their hypertension.

Case study #1

62 year old female

Systolic BP (mmHg) / Days

App usage
Med: Lisinopr
Step goal
Quizzes

Alert to Rush Nurse based on BP increase and consistent high readings

24h — Nurse calls patient to check in
   → Nurse sets up virtual appointment with PCP

2d — Patient has virtual check-in with PCP
   → PCP titrates medication

1w — Visit with Cardiologist

2mo — Increased monitoring by Nuna

Patient's Blood Pressure has decreased

Case study #2

> Nuna is my friend; it changed my life.
> - Derrick, Rush Patient, Nuna App User

When first approached, Derrick was highly skeptical about whether the Nuna App could help him. With unmanaged depression and anxiety, a very sedentary lifestyle, and barriers to transit and healthy food, Derrick seldom left his apartment. A Nuna community health worker persisted with Derrick, convincing him to try the App. After six weeks using Nuna, Derrick's blood pressure improved from 182/92 to 130/80 mmHg. Derrick actively seeks out parks for his frequent walks and has now eliminated table salt from his diet. He still has depression symptoms daily, but he reports feeling empowered and has new motivation to manage his health—which he readily attributes to "his new friend, Nuna."

What's next: We're expanding our program with Rush

Based on these results, Rush University is expanding access to Nuna's App across all eligible populations. Rush sees Nuna's App as a unique approach to engage patients, instill behavior change, and provide the personalized support and connection beyond what is feasible for clinical care teams.

Results presented in this white paper are part of a series of peer-reviewed studies with target publication dates throughout 2025.

References

[1] Tsao, C.W. et al. 2023. "Heart Disease and Stroke Statistics - 2023 Update: A Report from the American Heart Association." Circulation.

[2] Based on MIPS CQM 2024 benchmark for MIPS measure #236, Controlling High Blood Pressure: https://qpp.cms.gov/benchmarks

[3] Systolic blood pressure > 140 mmHg or diastolic blood pressure > 90, per their latest EHR reading

[4] Retention defined as completing any app activities on or after the denoted date, for fully onboarded users. Fully onboarded: Added at least one medication and took at least 1 blood pressure reading (53% patients)

[5] All rates calculated as the average rate per user over duration of follow-up for fully onboarded users. Fully onboarded: Added at least one medication and took at least 1 blood pressure reading

[6] Calculated as: (N users meeting controlled status, per the average of their last 2 weeks of at-home blood pressure readings; at least 2 readings in this window required) / (N users with at least 2 at-home blood pressure readings in their final two week measurement window)

[7] Ettehad, D. et al. 2-16. "Blood pressure lowering for prevention of cardiovascular disease and death: a systematic review and meta-analysis." The Lancet.