Blood Pressure Control Report (90 days)

Patient Name: Not Listed

Date of Birth: 1980-01-30

Report Interval: 2025-09-01 - 2025-11-29

SteadyStat is a self-reporting tool intended for informational purposes only. This service is provided on an "as is" and "as available" basis. All data is stored locally on your device; SteadyStat does not collect, store, or share your personal health information, or transmit user data via the cloud.

Data visualizations are based on American Heart Association (AHA) guidelines, but we do not warrant or guarantee that these represent the most current or updated medical standards. While we strive for precision, SteadyStat does not guarantee that calculations, data visualizations, or content are free from errors, omissions, or inaccuracies. Use of this tool and reliance on any information provided is solely at your own risk.

These visualizations are not a substitute for professional medical diagnosis or treatment. SteadyStat does not provide medical advice.

IF YOU THINK YOU MAY HAVE A MEDICAL EMERGENCY, CALL YOUR DOCTOR OR LOCAL EMERGENCY SERVICES IMMEDIATELY.

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Terms of Use & Clinical Methodology

1. Nature of Tool

SteadyStat is a proprietary data visualization and self-reporting software platform. It is designed to assist users in organizing and presenting blood pressure and pulse data to their healthcare providers. SteadyStat is not a medical device, does not provide medical diagnoses, and does not offer treatment recommendations.

2. Clinical Methodology

To provide actionable insights for clinical review, SteadyStat categorizes data into specific physiological windows based on standard pharmacological principles:

- Peak Analysis (2-6 hours post-dose): Intended to capture the maximal drug concentration and therapeutic effect (Cmax).
- Trough Analysis (20-24 hours post-dose): Intended to capture the residual therapeutic effect at the end of the dosing interval, consistent with FDA Trough-to-Peak (T/P) ratio guidelines for antihypertensive efficacy.
- AHA Alignment: Color-coding and categorization of blood pressure readings are based on the American Heart Association (AHA) and American College of Cardiology (ACC) guidelines.

Note: These windows are approximations. Individual metabolism and specific drug half-lives vary by patient and should be interpreted only by a licensed medical professional.

3. Privacy & Data Security

SteadyStat is designed with a Privacy-First architecture:

- Local Storage: All health data and personal identifiers are stored locally on the user's physical device.
- No Cloud Transmission: SteadyStat does not collect, store, share, or sell personal health information (PHI).
- User Control: The user is the sole custodian of their data. SteadyStat does not transmit data to third parties, insurers, or cloud servers.

4. Limitation of Liability & Warranty

SteadyStat and its developers provide this tool "as-is" and make no warranties, express or implied, regarding the accuracy, completeness, or currentness of the medical standards used within the app.

- No Medical Liability: SteadyStat assumes no liability for any adverse medical events, misinterpretations of data, or clinical decisions (including medication adjustments) made by the user or their healthcare provider.
- Physician Responsibility: The final interpretation of all data and all subsequent clinical actions are the sole responsibility of the treating physician.

5. Emergency Notice

DO NOT USE STEADYSTAT IN THE EVENT OF A MEDICAL EMERGENCY. If you are experiencing symptoms of a heart attack, stroke, or hypertensive crisis (e.g., chest pain, severe headache, shortness of breath, or confusion), call your local emergency services (e.g., 911) or go to the nearest emergency room immediately.

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Blood Pressure Control Overview

Clinician-grade insights derived from 360 readings and 270 medication logs.

Key Findings

Highlights from 360 readings. Non-adherent (with BP): 51 days (51 confirmed skipped, 0 missing logs).

No clear missed-day BP increase detected
Missed days averaged 135/83 (n=204) vs adherent 135/83 (n=156); Diff 0 mmHg systolic across 51 missed days with readings.

Morning readings run highest
Highest average in Morning: 144/89 (n=90) vs Daytime: 124/76 (n=90); Diff +20 mmHg systolic.

Largest trough-to-peak differentials detected
Largest trough-to-peak differentials: Losartan (+20; n=80/78) and Hydrochlorothiazide (+20; n=83/82).

Within-dataset BP variability
Systolic SD 11.0 mmHg; CV 8.1%.

Data Reliability

How complete this dataset is for interpretation

High data confidence

Calculation definitions and confidence thresholds are specified in Appendix A.

Treatment-day BP coverage (%)	**100%**
Adherent Days (with BP)	**39 days**
Adherent Days (without BP)	**0 days**
Non-adherent Days (with BP)	**51 days**
Non-adherent Days (without BP)	**0 days**
No-data Days	**0 days**

Longest adherence streak **6 days**

Treatment-day BP coverage (%) = Percent of scheduled-treatment days that have at least one BP reading.
Non-adherent Days (with BP) = Days with missed/skipped or unconfirmed medication doses on days where at least one BP reading was recorded. Missing expected dose logs are treated as non-adherent.

Rx Medication Adherence Impact

Similar BP Averages

Adherent: 135/83 (n=156) vs Missed: 135/83 (n=204); Diff 0 mmHg systolic (High data confidence, in this dataset).

Adherence was evaluated by comparing days where all scheduled doses were taken vs days where at least one dose was missed or skipped. Non-adherent days (with BP) = treatment days with BP readings where at least one scheduled medication was skipped OR missing an expected dose log.

TP Peak vs Trough BP (Timed Windows)

Comparing BP during peak effect (approx. 2-6h post-dose) versus trough (end of dose, 20-24h).

Most notable: Losartan shows higher readings near trough (end of dose) (Diff +20 mmHg systolic).

Losartan 50.0 mg

High data confidence

Peak	Trough	Difference
123/76 (n=80)	**144/89 (n=78)**	**+20 mmHg**

Hydrochlorothiazide 12.5 mg

High data confidence

Peak	Trough	Difference
123/77 (n=83)	**144/89 (n=82)**	**+20 mmHg**

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Systolic and Diastolic Blood Pressure Readings

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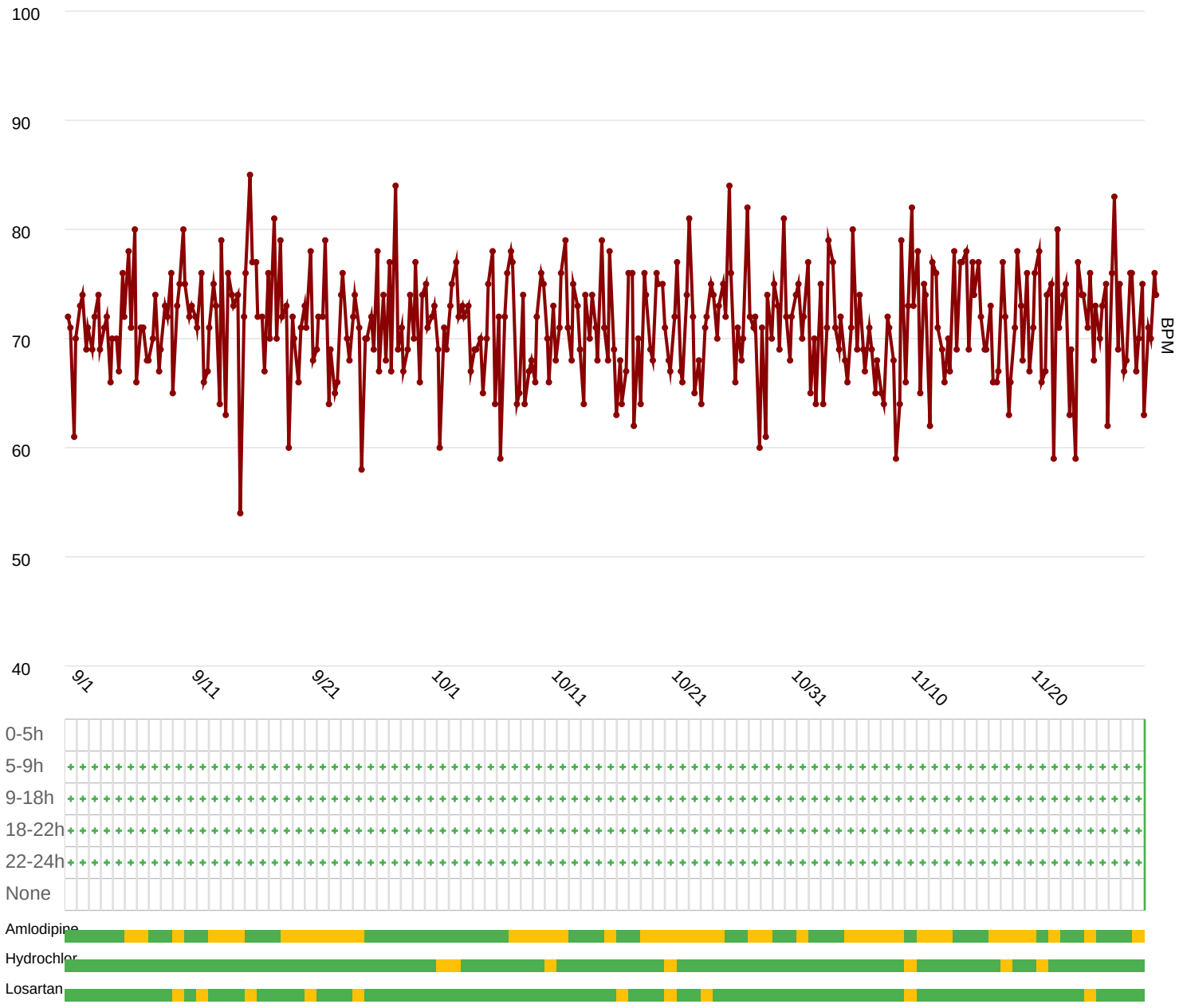
Pulse Readings



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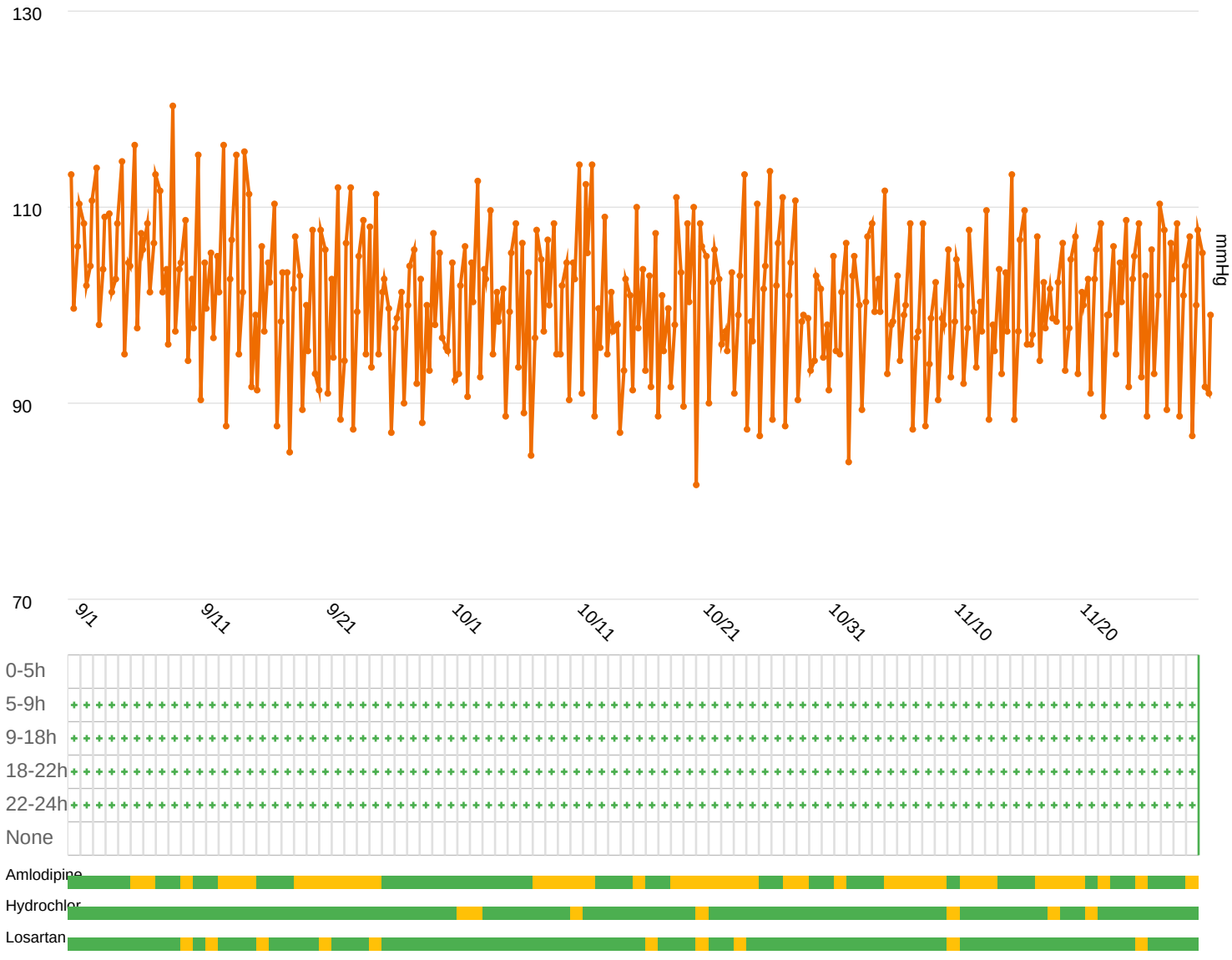
Mean Arterial Pressure Readings



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Observations [360]

(Systolic Median in parenthesis)

Morning (5-9 AM) [90]	144 (143) / 89 mmHg **MAP 107, PP 54**
Day (9 AM - 6 PM) [90]	124 (122) / 76 mmHg **MAP 92, PP 47**
Evening (6-10 PM) [90]	136 (136) / 83 mmHg **MAP 101, PP 53**
Night (10 PM - 5 AM) [90]	137 (139) / 84 mmHg **MAP 102, PP 54**
Total [360]	135 (136) / 83 mmHg **MAP 100, PP 52**
With Context Tags [0]	**--/--** mmHg
Without Context Tags [360]	135 / 83 mmHg
Stability (Std Dev):	**11.0 mmHg**
Coefficient of Variation	8.1 %

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Systolic Blood Pressure Category by Time-of-Day

	Morning	Day	Evening	Night
<130 mmHg	0% (n=0)	60% (n=54)	6% (n=5)	8% (n=7)
Stage 1	20% (n=18)	36% (n=32)	61% (n=55)	38% (n=34)
Stage 2+	80% (n=72)	4% (n=4)	33% (n=30)	54% (n=49)

Highest recorded systolic: 165 mmHg (2025-09-09 07:15)

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Adherence Impact (Systolic Median in parenthesis)

Adherent Days (39d)

135 (137) / **83** mmHg, 71 bpm
MAP 101, PP 52

Non-adherent Days (with BP) (51d)

135 (135) / **83** mmHg, 71 bpm
MAP 100, PP 52

Confirmed skipped days (with BP) (51d)
Missing med-log days (with BP) (0d)

Scheduled days with no BP (0d)

No-data days (0d)
No-data days: no effective medication logs and no valid BP readings recorded.

Scheduled Treatment Days (90d)

** Scheduled Treatment Days = Days in the selected range when at least one monitored medication was scheduled (non-PRN).*
** Non-adherent Days (with BP) = Treatment days with BP readings where at least one scheduled medication was skipped OR missing an expected dose log.*

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Adherence Diagnostics

Monitored BP Medications	**3**
Total Logs in Range	**270**

Adherence Alerts (Episodes) (4):

- 2025-09-06 to 2025-09-28
- 2025-10-02 to 2025-10-03
- 2025-10-05 to 2025-10-30
- 2025-11-03 to 2025-11-26

Note: Counts indicate number of days with missing/skipped logs for each medication. Readings are classified using dose timing prior to the reading.

*1) Mean Arterial Pressure (MAP) = (SBP + 2*DBP)/3*
2) Pulse Pressure (PP) = SBP - DBP
*3) Coefficient of Variation = Stdev/Mean * 100. It is a measure of how much your readings fluctuate relative to your average.*

These thresholds are based on cardiovascular research trends and are intended for educational tracking only. They do not constitute a medical diagnosis. Always consult with a healthcare provider regarding your blood pressure variability.

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Trough-to-Peak Analysis

Comparing hypotensive effect during peak (2-6h post-dose) vs. trough (20-24h post-dose) periods.

Amlodipine 5.0 mg

Peak (2-6h) [46]	138 / 84 mmHg **MAP 102, PP 54**
Trough (20-24h) [46]	137 / 83 mmHg **MAP 101, PP 54**

Hydrochlorothiazide 12.5 mg

Peak (2-6h) [83]	123 / 77 mmHg **MAP 92, PP 47**
Trough (20-24h) [82]	144 / 89 mmHg **MAP 107, PP 55**

Losartan 50.0 mg

Peak (2-6h) [80]	123 / 76 mmHg **MAP 92, PP 47**
Trough (20-24h) [78]	144 / 89 mmHg **MAP 107, PP 55**

Appendix A - Calculation Methodology and Reproducibility Specification

This appendix defines the deterministic calculation rules used to generate all metrics, tables, and summaries in the SteadyStat Report. Its purpose is to ensure that all reported outputs can be independently recomputed from raw blood pressure logs, medication schedules, and medication logs, without reference to application source code. Unless otherwise stated, all definitions in this appendix apply uniformly across the report, including UI-rendered views and exported PDF outputs.

A.1 Time Standardization and Calendar Interpretation

All events (blood pressure readings, medication logs, scheduled doses) are interpreted in the user's device local time at the moment the event was recorded.
If an event timestamp is stored in Coordinated Universal Time (UTC), it is converted to the device local time zone prior to:

- assignment to a calendar day,
- assignment to a daypart window, and
- calculation of time elapsed since medication dosing.

Calendar days are evaluated from 00:00 to 23:59 local time.

A.2 Blood Pressure Reading Inclusion Rules

Unless explicitly stated otherwise, all metrics use blood pressure readings that:

- fall within the report date range (inclusive), and
- contain both systolic and diastolic values.

Heart rate values are included only in metrics that explicitly reference heart rate.
If multiple blood pressure readings occur on the same calendar day, all readings are included, unless a metric specifies aggregation at the day level.

A.3 Daypart Classification

Morning	05:00 <= t < 09:00
Daytime	09:00 <= t < 18:00
Evening	18:00 <= t < 22:00
Night	22:00 <= t < 05:00 (next calendar day)

Timestamps exactly at a window start time are included in that window.
Timestamps exactly at a window end time are included in the subsequent window.

A.4 Medication Schedule Model

In the SteadyStat data model, each monitored medication defines zero or more expected dose times per day.

Definitions:

- Expected Dose: A specific instance of a required medication intake (medication x expected dose time x calendar day).
- Medication Active Interval: Defined by the start date (inclusive) and end date (exclusive).
- Scheduled-Treatment Day: Any calendar day containing >=1 expected dose for any monitored medication.

A.5 Medication Exclusions

To avoid false negatives, confirmed PRN medications, paused medications, and medications with zero scheduled dose times are excluded from adherence and coverage calculations.

A.6 Dose Log Classification

Logs are classified based on the user's manual entry status:

- Taken (on time)

- Taken (late)
- Skipped
- Missing log (inferred from absence of log for an expected dose)

Scoring

- Taken (on time) and Taken (late) count as taken.
- Skipped and Missing log count as not taken.

Timing Windows

- On-time window: ± 0 minutes around scheduled time. (0 is fixed and consistent across the report.)
- Same-day window: 00:00-23:59 local time.

A.7 Day-Level Adherence Classification

For each day in the range, the system assigns one status:

- Adherent Day
- Non-adherent Day
- No-data Day

Definitions:

- Adherent Day: All expected doses on that day are classified as Taken (on time or late).
- Non-adherent Day: At least one expected dose is classified as Skipped or Missing log.
- Non-adherent Day (with BP): A Non-adherent Day on which at least one blood pressure reading exists.
- No-data Day: A Scheduled-Treatment Day with: (a) no dose logs, and (b) no blood pressure readings.

A.8 Therapeutic Adherence Percentage

Therapeutic Adherence = (Total taken expected doses / Total expected doses) x 100

Result is rounded to one decimal place for display.

A.9 Reporting Integrity Percentage

Reporting Integrity = (Scheduled-treatment days with >= 1 BP or dose log / Total scheduled-treatment days) x 100

Result is rounded to one decimal place for display.

A.10 Treatment-Day Blood Pressure Coverage

Treatment-Day Blood Pressure Coverage (TDBC) evaluates the presence of blood pressure readings on Scheduled-Treatment Days.

- Denominator: Number of Scheduled-Treatment Days.
- Numerator: Number of those days with >=1 blood pressure reading.

TDBC% = (Numerator / Denominator) x 100

Rounded to the nearest whole percent.

A.11 Confidence Classification

Confidence labels are derived from both data volume and coverage.

Dataset-Level Confidence

High	>=14 Scheduled-Treatment Days and TDBC >=80%
Moderate	>=7 Scheduled-Treatment Days and TDBC >=50%
Limited	Otherwise

Peak/Trough Confidence (per medication)

High	n >=10
Moderate	5 <= n <10
Limited	n < 5

A.12 Adherence Alerts and Symptom Flag Events

Adherence Alerts

An adherence alert is recorded when either condition occurs:

1. Two or more consecutive Non-adherent Days, or
2. Therapeutic adherence within any rolling 7-day window falls below 80%.

An adherence alert represents a distinct episode of clinically meaningful non-adherence. Consecutive or overlapping alert conditions are grouped into a single alert interval and counted once.

The report displays the total count of alert episodes within the report range.

Symptom Flag Events

A symptom flag event is recorded when a medication log includes any of the following context tags: Nausea, Dizzy, Sleepy, Pain, Brain Fog.

A.13 Peak and Trough Analysis

Reference Dose Time Selection

For each blood pressure reading and each medication, the reference dose time is determined as:

1. no reference time (reading excluded for that medication).

For peak/trough eligibility, a taken dose log up to 24 hours prior to the reading timestamp may be used as the reference dose time, including if it occurs before the report start date; otherwise the reading is excluded unless the expected-dose fallback applies.

If the current day is Non-adherent for that medication, the reading is excluded unless a valid Taken dose log exists.

Eligibility Windows

- Peak-eligible: 2.0 <= hours since last dose <6.0
- Trough-eligible: 20.0 <= hours since last dose <=24.0

Aggregation

- Peak and trough systolic and diastolic means are computed as arithmetic means of eligible readings.
- Values are rounded for display only.
- Difference = (trough mean - peak mean).

A.14 Statistical Conventions

- Mean: arithmetic mean.
- Standard Deviation: sample standard deviation (divide by N - 1).
- Coefficient of Variation (CV): CV = (SD / Mean) x 100

All statistics are computed at full precision and rounded only at final display.

A.15 Blood Pressure Category Assignment

Categories are assigned using AHA/ACC thresholds. If systolic and diastolic values fall into different categories, the higher severity category is assigned.

Percentages are rounded to one decimal place.

A.16 Canonical Calculation Policy

This appendix is the authoritative source for all calculations. UI and PDF outputs must conform to these definitions.

In the event of discrepancy, the methodology defined here is the authoritative source, and the implementation must be corrected.