## Appendix

Patients were considered treated for elevated BP if one or more of their prescribed drugs were of the following classes: diuretics, beta-blockers, angiotensin-converting enzyme inhibitors, angiotensin II receptor blockers, calcium channel blockers, alpha blockers, alpha-2 receptor agonists, combined alpha and beta-blockers, central agonists, peripheral adrenergic inhibitors, or vasodilators.  If a drug name was classified as a statin, selective cholesterol adsorption inhibitors, resins, or lipid-lowering therapy drug, we considered the patient to be treated for high cholesterol.  Patients treated for diabetes mellitus were those prescribed drugs from the insulin, sulfonylureas, iguanids, meglitinides, thiazolidinediones, DPP-4 inhibitors, SGLT2 inhibitors, alpha-glucosidase inhibitors, or bile acid sequestrants classes of medications.


For observations recording BMI, we excluded 113,718 because they did not fall within our timeframe of analysis, 23,982  due to implausible values, 91,725 due to lack of age information, 158,932 due to missing   values, 669,111 due to repeat measurement within that year, and 4,539 because the patient   was <18 years old.  For observations recording BP, we excluded 72,983 because they did not fall within our timeframe  of analysis, 49,751 due to implausible values, 177,238 due to lack of age information, 78,068  due to missing values, 1,220,935 due to repeat measurement within that year, and 8291  because the patient was <18 years old, and 45,429 due to lack of medication data.   For observations recording LDL,   we excluded 38,752 because they did not fall within our timeframe of analysis, 17,945 due to  implausible values, 2,270 due to lack of age information, 5,009 due to missing values, 92,351  due to repeat measurement within that year, 399 because the patient was <18 years old, and  7,673 due to lack of medication data.  For observations recording HbA1c, we excluded 19,738 because they did not fall  within our timeframe of analysis, 17,555 due to implausible values, 58,310 due to lack of age  information, 3,293 due to missing values, 88,056 due to repeat measurement within that year,  275 because the patient was <18 years old, and 3,415 due to lack of medication data. For  observations recording smoking status, we excluded 150,185 because they did not fall within our timeframe of analysis,

2,145,768 due to missing data, 63,557 due to lack of age information, 643,561 due to repeat

measurement within that year, and 6,873 because the patient was <18 years old.

Appendix Table 1. Definitions of poor, intermediate, and ideal categories for each CVH measure

| | Poor | Intermediate | Ideal |
|---|---|---|---|
| **Body mass index (BMI)** | ≥30 kg/m$^2$ | 25 to <30 kg/m$^2$ | <25 kg/m$^2$ |
| **Blood pressure (BP)** | Systolic ≥140 mm Hg or diastolic ≥90 mm Hg | Systolic 120-139 mm Hg, diastolic 80-89 mm Hg, or treated to goal | Systolic <120 mm Hg or diastolic <80 mm Hg |
| **Low-density lipoprotein (LDL)** | ≥160 mg/dL | 100-159 mg/dL or treated to goal | <100 mg/dL |
| **Glycosylated hemoglobin (HbA1c)** | ≥6.5% | 6.0-6.4% | <6.0% |
| **Cigarette smoking status** | Current | Former | Never |

Appendix Table 2. Quantity of observations excluded at each data management step.

| | Repeat measure | Outside of year range | Missing values | No birthdate for age | Implausible values[1] | <18 years old | Medication |
|---|---|---|---|---|---|---|---|
| **Body mass index (BMI)** | 669,111 | 113,718 | 158,932 | 91,725 | 23,982 | 4,539 | N/A[2] |
| **Blood pressure (BP)** | 1,220,935 | 72,983 | 78,068 | 177,238 | 49,751 | 8291 | 45,429 |
| **Low-density lipoprotein (LDL)** | 92,351 | 38,752 | 5,009 | 2,270 | 17,945 | 399 | 7,673 |
| **Glycosylated hemoglobin (HbA1c)** | 88,056 | 19,738 | 3,293 | 58,310 | 17,555 | 275 | 3415 |
| **Cigarette smoking** | 643,561 | 150,185 | 2,145,768 | 63,557 | N/A | 6,873 | N/A |

[1]Implausible values for body mass index were those <11.55 kg/m$^2$ or >55.00 kg/m$^2$; for blood pressure were systolic <20 mm Hg or >260 mm Hg, diastolic <20 mm Hg or >200 mm Hg, or pulse pressure <20 mm Hg; for low-density lipoprotein were those <20 mg/dL or >220 mg/dL; and for glycosylated hemoglobin were those <2% or >14%.

[2]N/A= not available