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Data obtained through Sentinel are intended to complement other types of evidence such as preclinical studies, clinical trials, postmarket studies, and adverse event reports, all of which are used by FDA to inform regulatory decisions regarding medical product safety. The information contained in this report is provided as part of FDA's commitment to place knowledge acquired from Sentinel in the public domain as soon as possible. Any public health actions taken by FDA regarding products involved in Sentinel queries will continue to be communicated through

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The following report contains a description of the request, request specifications, and results from the modular program run(s).

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Overview for Request: cder_mpl1p_wp059

Request ID: cder_mpl1p_wp059_nsdv_v01

Request Description: In this report we examined counts of pediatric patients with vital blood pressure measurements and claims for hypertension in the Sentinel Distributed Database (SDD), classified based on American Academy of Pediatrics (AAP) guidelines for pediatric high blood pressure. Among cohorts, we determined concurrence between claims and clinical definitions of hypertension and examined baseline conditions, pre- and post-index medication use, and presence of additional blood pressure measurements.

Sentinel Routine Querying Module: Cohort Identification and Descriptive Analysis (CIDA) module, version 10.4.0, with custom programming

Data Source: We distributed this request to seven Sentinel Data Partners on September 24, 2021. These seven Data Partners represent a subset of the SDD with access to both claims and electronic health record (EHR) data. Patients with eligible blood pressure measurements between July 1, 2006 and July 31, 2016 were included in the cohorts; follow-up was continued until July 31, 2019. Please see Appendix A for the dates of available data for each Data Partner.

Study Design: We identified individuals with valid blood pressure measurements and claims for hypertension among a cohort who were between 3 and 17.999 years of age. We stratified results by age group, sex, year, race, and Hispanic ethnicity. This is a Type 1 analysis with custom programming in the Query Request Package (QRP) documentation.

Events of Interest: We defined the clinical events of interest, valid blood pressure measurements, using clinical vital signs EHR data. For a valid measurement, we required same day diastolic and systolic blood pressure measures within a specified valid range of values, and a valid height recorded within six months of the blood pressure reading. As there is no standard algorithm for defining biologic plausibility for blood pressure measures, we modified our definition for valid blood pressure values from Eny et al.;¹ in this study the valid range of values for systolic blood pressure was between 50 mmHg - 260 mmHg, and the valid range of values for diastolic blood pressure was between 25 mmHg - 200 mmHg. Valid height percentiles were defined using the Centers for Disease Control and Prevention (CDC) growth charts.² We leveraged a programming macro developed by Dr. Bernard Rosner which incorporated systolic blood pressure, diastolic blood pressure, height, age, and sex to calculate pediatric blood pressure percentiles.³ If multiple blood pressure measurements were recorded on one day, the measurements were averaged across the day. We further classified all valid blood pressure measurements into either normotensive, elevated, or hypertensive categories, according to AAP guidelines for pediatric hypertension.⁴ Please see Appendix B for further details on the algorithm used to define the pediatric hypertension categories.

We defined the claims events of interest, hypertension, using International Classification of Diseases, Ninth and Tenth Revision, Clinical Modification (ICD-9-CM/ICD-10-CM) diagnosis codes. Please see Appendix C for the list of codes used to define the claims exposures in this request.

Overview for Request: cder_mpl1p_wp059

We assessed fifteen separate cohorts with differing cohort qualifying (index) events of interest. In each cohort, the index event was defined as:

- 1) The first qualifying elevated or hypertensive blood pressure measurement
- 2) The first qualifying normotensive measurement, with no elevated or hypertensive blood pressure measurements in the entire pre- or post-index enrollment history
- 3) The first qualifying elevated or hypertensive blood pressure measurement, with no normotensive blood pressure measurements in the entire post-index enrollment history
- 4) The first qualifying normotensive measurement, with no elevated or hypertensive blood pressure measurements in the entire pre-index enrollment history
- 5) Any qualifying normotensive, elevated, or hypertensive blood pressure measurement
- 6) The first qualifying normotensive, elevated, or hypertensive blood pressure measurement with at least 3 valid blood pressure measurements within 36 months after the index measure date, among a cohort of children aged 3-12.999 years
- 7) The first qualifying normotensive, elevated, or hypertensive blood pressure measurement with at least 3 valid hypertensive blood pressure measurements within 36 months after the index measure date, among a cohort of children aged 3-12.999 years
- 8) The first qualifying normotensive, elevated, or hypertensive blood pressure measurement with at least 3 valid blood pressure measurements within 36 months after the index measure date, among a cohort of teens aged 13-17.999 years
- 9) The first qualifying normotensive, elevated, or hypertensive blood pressure measurement with at least 3 valid hypertensive blood pressure measurements within 36 months after the index measure date, among a cohort of teens aged 13-17.999 years
- 10) The first qualifying normotensive, elevated, or hypertensive blood pressure measurement with at least 3 valid elevated blood pressure measurements within 36 months after the index measure date, among a cohort of children aged 3-12.999 years
- 11) The first qualifying normotensive, elevated, or hypertensive blood pressure measurement with at least 3 valid elevated blood pressure measurements within 36 months after the index measure date, among a cohort of teens aged 13-17.999 years
- 12) Either the first qualifying hypertension diagnosis claim in the inpatient care setting OR two hypertension diagnosis claims within 183 days of each other in the emergency department, ambulatory, or other ambulatory care settings, among a cohort of children aged 3-12.999 years
- 13) The first qualifying hypertension diagnosis claim in any care setting, among a cohort of children aged 3-12.999 years
- 14) Either the first qualifying hypertension diagnosis claim in the inpatient care setting OR two hypertension diagnosis claims within 183 days of each other in the emergency department, ambulatory, or other ambulatory care settings, among a cohort of teens aged 13-17.999 years
- 15) The first qualifying hypertension diagnosis claim in any care setting, among a cohort of teens aged 13-17.999 years

In cohorts #1-4 and #12-15 re-entry was not allowed. In cohort #5, all blood pressure measurements were included; cohort re-entry was allowed.

In cohorts #6-11, we used ad hoc programming to require that patients had evidence of at least 3 blood pressure measurements on separate days to align with Kaelber et al.'s definition of pediatric hypertension.⁵ Once patients with multiple measurements were identified, their first blood pressure measurement was included in the cohort, regardless of blood pressure classification status. Cohort re-entry was not allowed.

Overview for Request: cder_mpl1p_wp059

Cohort Eligibility Criteria: We required members to be enrolled in health plans with medical and drug coverage in the 183 days prior to their qualifying index date in order to be included in the cohorts; a gap in coverage of up to 45 days was allowed and treated as continuous enrollment. While we required at least 3 blood pressure measurements during 36 months for inclusion in some cohorts, we did not enforce enrollment during this time. The following age groups were included in the cohorts: 3-5.999, 6-12.999, and 13-17.999 years.

Baseline Characteristics: We assessed the following vitals signs at the time of valid index event: mean height, diastolic blood pressure, and systolic blood pressure values. We also classified any valid index day blood pressure measurement as either elevated, hypertensive, or normotensive. Among all valid index blood pressure measurements, we determined whether those individuals had at least one, at least two, or no additional valid blood pressure measurements in the 183 days after valid index blood pressure measure, 365 days after valid index blood pressure measure, or in the entire available enrollment history post-index blood pressure measure. We also performed the same assessment of additional blood pressure measurements for a subsection of members that were hypertensive at the time of valid index blood pressure measure. We additionally evaluated whether individuals had a diagnosis claims code for an abnormal blood pressure exam or a normal blood pressure exam in the 183 days prior to or 36 months after the valid index blood pressure measurement. We performed this evaluation for all valid index blood pressure measurements, and subsections of members that were hypertensive or had elevated blood pressure at index. We additionally characterized whether members had evidence of high blood pressure in their claims records in the 36 months after their index blood pressure measurement. We characterized three primary claims definitions for high blood pressure: 1) either one outpatient or two inpatient hypertension claims diagnoses (hypertension claims definition 1); 2) any hypertension claims diagnosis (hypertension claims definition 2); and 3) any elevated blood pressure claims diagnosis. We added an additional sensitivity analysis for hypertension claims definition 1 to assess whether members had evidence of one inpatient or three outpatient hypertension claims.

Misclassification Matrix: To evaluate concurrence between clinical and claims definitions of pediatric hypertension, we compared evidence of hypertension in the EHR record to the claims record. Among those with evidence of hypertension based on their clinical record at index, we assessed 1) whether they had evidence of hypertension definition 1 in their claims record the following 36 months; 2) whether they did not have evidence of hypertension definition 1 in their claims record in the following 36 months; 3) whether they had evidence of hypertension definition 2 in their claims record in the following 36 months; 4) whether they did not have evidence of hypertension definition 2 in their claims record in the following 36 months; and 5) whether they did not have evidence of any high blood pressure diagnosis in their claims record in the following 36 months (hypertension claims definition 1, hypertension claims definition 2, or elevated blood pressure claim). Among those with evidence of elevated blood pressure in their clinical record at index, we assessed 1) whether they had evidence of elevated blood pressure in their claims record in the following 36 months; 2) whether they did not have evidence of elevated blood pressure in their claims record in the following 36 months; and 3) whether they did not have evidence of any high blood pressure diagnosis in their claims record in the following 36 months (hypertension claims definition 1, hypertension claims definition 2, or elevated blood pressure claim).

Overview for Request: cder_mpl1p_wp059

Furthermore, we assessed the following baseline characteristics in the 183 days prior to and including the date of the valid index blood pressure measure: obesity, body mass index (in four categories, underweight, normal weight, overweight, and obese), broad obesity defined as either an obesity code or code for BMI ≥ 30 kg/m², type 2 diabetes mellitus, dyslipidemia, chronic kidney disease, cardiomegaly, pyelonephritis, vesicoureteral reflux, neurofibromatosis type 1, hyperthyroidism, tuberous sclerosis, systemic lupus erythematosus, Cushing syndrome, Williams syndrome, and Turner syndrome. We additionally evaluated the use of the following anti-hypertensive medications in the 183 days prior to and including the date of the valid index blood pressure measure, and from the first day following the index blood pressure measure through to the end of enrollment: angiotensin receptor blockers (ARBs), angiotensin-converting enzyme (ACE) inhibitors, alpha antagonists, beta-blockers, calcium channel blockers, central alpha-agonists, direct renin inhibitors, direct vasodilators, diuretics, thiazide diuretics, potassium-sparing diuretics, dopamine receptor agonists, alpha and beta adrenergic blockers, and combination products. We defined the clinical conditions using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) codes. We defined the anti-hypertensive medications using National Drug Codes (NDCs). Please see Appendices D, E, and E.1 for a list of codes used to define baseline characteristics in this request.

Implausible Value and Data Characterization: We characterized data missingness and implausibility in the SDD vitals data used in this request. We examined counts of blood pressure measurements that were excluded from the cohorts due to the following reasons: 1) the systolic blood pressure measurement was outside of the valid range (<50 mmHg or >260 mmHg); 2) the diastolic blood pressure measurement was outside of the valid range (<25 mmHg or >200 mmHg); 3) the systolic blood pressure measurement was less than or equal to the diastolic blood pressure measurement; 4) the blood pressure measurement was biologically implausible according to the AAP Guidelines; and 5) the height measurement was biologically implausible (height z-score < -3.09 or >3.09). We additionally counted the number of blood pressure measurements that had same day systolic and diastolic measurements, but did not have a same day height recording; these measurements were not excluded from the cohorts as long as a valid height measurement occurred with six months of diastolic and systolic measurements.

Please see Appendices F-H for the specifications of parameters used in this request.

Limitations: The algorithms used to define blood pressure measurements and the baseline characteristics are imperfect; thus, it is possible that there may be misclassification. Therefore, data should be interpreted with these limitations in mind.

Notes: Please contact the Sentinel Operations Center (info@sentinelssystem.org) for questions and to provide comments/suggestions for future enhancements to this document. For more information on Sentinel's routine querying modules, please refer to the documentation (<https://dev.sentinelssystem.org/projects/SENTINEL/repos/sentinel-routine-querying-tool-documentation/browse>).

¹Eny KM, et al. Association of accelerated body mass index gain with repeated measures of blood pressure in early childhood. *Int J Obes (Lond)*. 2019 Jul;43(7):1354-1362. doi: 10.1038/s41366-019-0345-9. Epub 2019 Apr 2. PMID: 30940913; PMCID: PMC6760600.

²Centers for Disease Control and Prevention, National Center for Health Statistics. 2000 CDC growth charts: United States. Available at: www.cdc.gov/growthcharts. Accessed August 19, 2020

³Rosner B, Cook N, Portman R, Daniels S, Falkner B. Determination of blood pressure percentiles in normal-weight children: some methodological issues. *Am J Epidemiol*. 2008 Mar 15;167(6):653-66

⁴Flynn JT, Kaelber DC, Baker-Smith CM, et al. Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents. *Pediatrics*.2017;140(3):e20171904

⁵Kaelber DC, Localio AR, Ross M, Leon JB, Pace WD, Wasserman RC, Grundmeier RW, Steffes J, Fiks AG. Persistent Hypertension in Children and Adolescents: A 6-Year Cohort Study. *Pediatrics*. 2020 Oct;146(4):e20193778

Table of Contents

Glossary List of Terms Found in this Report and their Definitions

Table 1a Aggregated Baseline Table for Pediatric Members with an Elevated or Hypertensive Blood Pressure (BP) Measurement in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1b Aggregated Baseline Table for Pediatric Members with a Normotensive Blood Pressure (BP) Measurement and No Pre- or Post-Index Elevated or Hypertensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1c Aggregated Baseline Table for Pediatric Members with an Elevated or Hypertensive Blood Pressure (BP) Measurement and No Post-Index Normotensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1d Aggregated Baseline Table for Pediatric Members with a Normotensive Blood Pressure (BP) Measurement and No Pre-Index Elevated or Hypertensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1e Aggregated Baseline Table for Pediatric Members with Any Valid Blood Pressure (BP) Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1f Aggregated Baseline Table for Children with at least Three Valid Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1g Aggregated Baseline Table for Children with at least Three Hypertensive Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1h Aggregated Baseline Table for Teens with at least Three Valid Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1i Aggregated Baseline Table for Teens with at least Three Hypertensive Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1j Aggregated Baseline Table for Children with at least Three Elevated Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1k Aggregated Baseline Table for Teens with at least Three Elevated Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1l Aggregated Baseline Table for Children with Hypertension Claims Definition 1 (at least 1 Inpatient or 2 Outpatient Claims) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1m Aggregated Baseline Table for Children with Hypertension Claims Definition 2 (Any Valid Claim) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1n Aggregated Baseline Table for Teens with Hypertension Claims Definition 1 (at least 1 Inpatient or 2 Outpatient Claims) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 1o Aggregated Baseline Table for Teens with Hypertension Claims Definition 2 (Any Valid Claim) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Table 2 Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016

Table 3 Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Year

Table 4 Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Sex

Table 5 Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Age Group

Table 6 Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Race

Table 7 Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Hispanic Origin

Table of Contents

Table 8a Summary of Time to Censor for Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016

Table 8b Summary of Reasons for Censoring using Time to Censor Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016

Table 9 Frequency of Implausible Blood Pressure Measurements among all Clinical Blood Pressure Measurements in the Sentinel Distributed Database, by Metric that Caused Implausible Value

Appendix A Dates of Available Data for Each Data Partner as of Request Distribution Date (September 24, 2021)

Appendix B American Academy of Pediatrics (AAP) Guidelines for Pediatric Hypertension Classification

Appendix C List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Claims-Based Exposures in this Request

Appendix D List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Appendix E List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

Appendix F Specifications Defining Parameters Used in this Request

Appendix G Specifications Defining Combo and Utilization Metric Parameters Used in this Request

Appendix H Specifications Defining Baseline Characteristic Parameters Used in this Request

**Glossary of Terms for Analyses Using
Cohort Identification and Descriptive Analysis (CIDA) Module***

Amount Supplied - number of units (pills, tablets, vials) dispensed. Net amount per NDC per dispensing.

Blackout Period - number of days at the beginning of a treatment episode that events are to be ignored. If an event occurs during the blackout period, the episode is excluded.

Care Setting - type of medical encounter or facility where the exposure, event, or condition code was recorded. Possible care settings include: Inpatient Hospital Stay (IP), Non-Acute Institutional Stay (IS), Emergency Department (ED), Ambulatory Visit (AV), and Other Ambulatory Visit (OA). For laboratory results, possible care settings include: Emergency Department (E), Home (H), Inpatient (I), Outpatient (O), or Unknown or Missing (U). The Care Setting, along with the Principal Diagnosis Indicator (PDX), forms the Care Setting/PDX parameter.

Ambulatory Visit (AV) - includes visits at outpatient clinics, same-day surgeries, urgent care visits, and other same-day ambulatory hospital encounters, but excludes emergency department encounters.

Emergency Department (ED) - includes ED encounters that become inpatient stays (in which case inpatient stays would be a separate encounter). Excludes urgent care visits.

Inpatient Hospital Stay (IP) - includes all inpatient stays, same-day hospital discharges, hospital transfers, and acute hospital care where the discharge is after the admission date.

Non-Acute Institutional Stay (IS) - includes hospice, skilled nursing facility (SNF), rehab center, nursing home, residential, overnight non-hospital dialysis and other non-hospital stays.

Other Ambulatory Visit (OA) - includes other non overnight AV encounters such as hospice visits, home health visits, skilled nursing facility visits, other non-hospital visits, as well as telemedicine, telephone and email consultations.

Charlson/Elixhauser Combined Comorbidity Score - calculated based on comorbidities observed during a requester-defined window around the exposure episode start date (e.g., in the 183 days prior to index).

Code Days - the minimum number of times the diagnosis must be found during the evaluation period in order to fulfill the algorithm to identify the corresponding patient characteristic.

Cohort Definition (drug/exposure) - indicates how the cohort will be defined: 01: Cohort includes only the first valid treatment episode during the query period; 02: Cohort includes all valid treatment episodes during the query period; 03: Cohort includes all valid treatment episodes during the query period until an event occurs.

Computed Start Marketing Date - represents the first observed dispensing date among all valid users within a GROUP (scenario) within each Data Partner site.

Days Supplied - number of days supplied for all dispensings in qualifying treatment episodes.

Eligible Members - number of members eligible for an incident treatment episode (defined by the drug/exposure and event washout periods) with drug and medical coverage during the query period.

Enrollment Gap - number of days allowed between two consecutive enrollment periods without breaking a "continuously enrolled" sequence.

Episodes - treatment episodes; length of episode is determined by days supplied in one dispensing or consecutive dispensings bridged by the episode gap.

Episode Gap - number of days allowed between two (or more) consecutive exposures (dispensings/procedures) to be considered the same treatment episode.

Event Deduplication - specifies how events are counted by the Modular Program (MP) algorithm: 0: Counts all occurrences of a health outcome of interest (HOI) during an exposure episode; 1: de-duplicates occurrences of the same HOI code and code type on the same day; 2: de-duplicates occurrences of the same HOI group on the same day (e.g., de-duplicates at the group level).

Exposure Episode Length - number of days after exposure initiation that is considered "exposed time."

Exposure Extension Period - number of days post treatment period in which the outcomes/events are counted for a treatment episode. Extensions are added after any episode gaps have been bridged.

Lookback Period - number of days wherein a member is required to have evidence of pre-existing condition (diagnosis/procedure/drug dispensing).

Maximum Episode Duration - truncates exposure episodes after a requester-specified number of exposed days. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

Member-Years - sum of all days of enrollment with medical and drug coverage in the query period preceded by an exposure washout period all divided by 365.25.

Minimum Days Supplied - specifies a minimum number of days in length of the days supplied for the episode to be considered.

Minimum Episode Duration - specifies a minimum number of days in length of the episode for it to be considered. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

Monitoring Period - used to define time periods of interest for both sequential analysis and simple cohort characterization requests.

Principal Diagnosis (PDX) - diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. 'P' = principal diagnosis, 'S' = secondary diagnosis, 'X' = unspecified diagnosis, '.' = blank. Along with the Care Setting values, forms the Caresetting/PDX parameter.

Query Period - period in which the modular program looks for exposures and outcomes of interest.

Switch Evaluation Step Value - value used to differentiate evaluation step. Each switch pattern can support up to 2 evaluation steps (0 = switch pattern evaluation start; 1 = first evaluation; 2 = second evaluation).

Switch Gap Inclusion Indicator - indicator for whether gaps in treatment episodes that are included in a switch episode will be counted as part of the switch episode duration.

Switch Pattern Cohort Inclusion Date - indicates which date to use for inclusion into the switch pattern cohort of interest as well as optionally as the index date of the treatment episode initiating the switch pattern. Valid options are the product approval date, product marketing date, other requester defined date, or computed start marketing date.

Switch Pattern Cohort Inclusion Strategy - indicates how the switch pattern cohort inclusion date will be used: 01: used only as a switch cohort entry date. First treatment episode dispensing date is used as index for computing time to first switch; 02: used as switch cohort entry date and as initial switch step index date for computing time to first switch.

Treatment Episode Truncation Indicator - indicates whether the exposure episode will be truncated at the occurrence of a requester-specified code.

Washout Period (drug/exposure) - number of days a user is required to have no evidence of prior exposure (drug dispensing/procedure) and continuous drug and medical coverage prior to an incident treatment episode.

Washout Period (event/outcome) - number of days a user is required to have no evidence of a prior event (procedure/diagnosis) and continuous drug and medical coverage prior to an incident treatment episode.

Years at Risk - number of days supplied plus any episode gaps and exposure extension periods all divided by 365.25.

*all terms may not be used in this report

Table 1a. Aggregated Baseline Table for Pediatric Members with an Elevated or Hypertensive Blood Pressure (BP) Measurement in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	1,061,047	
Number of unique patients	1,061,047	
Demographics	Mean	Standard Deviation
Mean Age	10.1	5
Age (years)	Number	Percent
3-5	326,459	30.8%
6-12	348,359	32.8%
13-17	386,229	36.4%
Sex		
Female	476,235	44.9%
Male	584,812	55.1%
Race		
Unknown	267,361	25.2%
American Indian or Alaska Native	8,989	0.8%
Asian	157,133	14.8%
Black or African American	123,913	11.7%
Native Hawaiian or Other Pacific Islander	31,280	2.9%
White	472,371	44.5%
Hispanic Origin	251,250	23.7%
Year		
2006	59,951	5.7%
2007	122,592	11.6%
2008	119,306	11.2%
2009	113,751	10.7%
2010	110,411	10.4%
2011	109,258	10.3%
2012	99,100	9.3%
2013	93,147	8.8%
2014	88,411	8.3%
2015	91,062	8.6%
2016	54,058	5.1%
Vital Measurements	Mean	Standard Deviation
Height	54.6	11.2
Diastolic Blood Pressure	68.9	8.7
Systolic Blood Pressure	115.8	12.2
Clinical Hypertension Category at Index:	Number	Percent
Elevated	535,442	50.5%
Hypertensive	525,605	49.5%
Normotensive	0	0.0%
Post-Index BP Measures:		
At Least 1 Additional BP Measure in 183 days	442,214	41.7%
At Least 2 Additional BP Measures in 183 days	192,876	18.2%
At Least 1 Additional BP Measure in 365 days	619,455	58.4%
At Least 2 Additional BP Measures in 365 days	333,037	31.4%

Table 1a. Aggregated Baseline Table for Pediatric Members with an Elevated or Hypertensive Blood Pressure (BP) Measurement in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures:		
At Least 1 Additional BP Measure in entire history	923,007	87.0%
At Least 2 Additional BP Measures in entire history	800,176	75.4%
No Additional BP Measures in 183 days	618,833	58.3%
No Additional BP Measures in 365 days	441,592	41.6%
No Additional BP Measures in entire history	138,040	13.0%
Post-Index BP Measures, among Hypertensive at Index Members:		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	226,698	21.4%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	97,379	9.2%
Hypertensive and No Additional Blood Pressure Measures in 183 days	298,907	28.2%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	314,516	29.6%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	167,117	15.8%
Hypertensive and No Additional Blood Pressure Measures in 365 days	211,089	19.9%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	466,793	44.0%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	410,830	38.7%
Hypertensive and No Additional Blood Pressure Measures in entire history	58,812	5.5%
Blood Pressure Claims Codes:		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	33	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	2	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	482	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	10	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	11	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	207	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	3	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	22	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	2	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	275	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	7	0.0%
Claims Definitions in 36 Months After Index:		
Elevated BP Claim	14,905	1.4%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	4,075	0.4%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	3,152	0.3%
3 Outpatient Hypertension Claims	2,149	0.2%
Hypertension Claims Definition 2: Any Claim	7,199	0.7%
Claims and Clinical Hypertension Cross-Tabulations:		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	4,676	0.4%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	530,766	50.0%
Hypertensive AND Hypertension Claims Definition 1	2,974	0.3%
Hypertensive AND NOT Hypertension Claims Definition 1	522,631	49.3%
Hypertensive AND Hypertension Claims Definition 2	5,224	0.5%
Hypertensive AND NOT Hypertension Claims Definition 2	520,381	49.0%
Elevated Blood Pressure AND NOT ANY Claims Definition	529,202	49.9%
Hypertensive AND NOT ANY Claims Definition	511,520	48.2%

Table 1a. Aggregated Baseline Table for Pediatric Members with an Elevated or Hypertensive Blood Pressure (BP) Measurement in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement:		
Angiotensin Receptor Blockers	40	0.0%
Angiotensin-Converting Enzyme Inhibitors	638	0.1%
Alpha Antagonists	68	0.0%
Alpha and Beta Adrenergic Blockers	39	0.0%
Beta-Blockers	1,150	0.1%
Calcium Channel Blockers	187	0.0%
Central Alpha-Agonists	4,644	0.4%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	7	0.0%
Diuretics	467	0.0%
Thiazide Diuretics	90	0.0%
Potassium-Sparing Diuretics	174	0.0%
Dopamine Receptor Agonists	0	0.0%
Combination Products	24	0.0%
Use of Anti-Hypertension Agents in Enrollment History After Blood Pressure Measurement:		
Angiotensin Receptor Blockers	772	0.1%
Angiotensin-Converting Enzyme Inhibitors	4,371	0.4%
Alpha Antagonists	2,750	0.3%
Alpha and Beta Adrenergic Blockers	1,404	0.1%
Beta-Blockers	17,516	1.7%
Calcium Channel Blockers	2,770	0.3%
Central Alpha-Agonists	20,822	2.0%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	182	0.0%
Diuretics	8,803	0.8%
Thiazide Diuretics	1,720	0.2%
Potassium-Sparing Diuretics	5,971	0.6%
Dopamine Receptor Agonists	0	0.0%
Combination Products	1,069	0.1%
Recorded history of in 183 Days Prior to Hypertension Measurement:		
Obesity	46,302	4.4%
BMI - Underweight	10,102	1.0%
BMI - Normal Weight	284,786	26.8%
BMI - Overweight	66,951	6.3%
BMI - Obese	87,309	8.2%
Obesity Combo	124,494	11.7%
Type 2 Diabetes Mellitus	1,216	0.1%
Dyslipidemia	2,828	0.3%
Chronic Kidney Disease	2,650	0.2%
Cardiomegaly	292	0.0%
Pyelonephritis	1,135	0.1%
Vesicoureteral Reflux	917	0.1%
Neurofibromatosis Type 1	282	0.0%
Hyperthyroidism	388	0.0%
Tuberous Sclerosis	64	0.0%

Table 1a. Aggregated Baseline Table for Pediatric Members with an Elevated or Hypertensive Blood Pressure (BP) Measurement in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement:		
Systemic Lupus Erythematosus	113	0.0%
Cushing Syndrome	21	0.0%
Williams Syndrome	349	0.0%
Turner Syndrome	167	0.0%
Health Service Utilization Intensity:		Mean Standard Deviation
Mean number of unique drug classes	1.1	1.5
Mean number of generics	1.2	1.6
Mean number of filled prescriptions	1.5	2.5
Mean number of ambulatory encounters	2.7	3.8
Mean number of emergency room encounters	0.2	0.5
Mean number of inpatient hospital encounters	0	0.2
Mean number of non-acute institutional encounters	0	0.1
Mean number of other ambulatory encounters	1.2	2

Table 1b. Aggregated Baseline Table for Pediatric Members with a Normotensive Blood Pressure (BP) Measurement and No Pre- or Post-Index Elevated or Hypertensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	571,448	
Number of unique patients	571,448	
Demographics		
Mean Age	10	4.9
Age (years)	Number	Percent
3-5	181,269	31.7%
6-12	195,551	34.2%
13-17	194,628	34.1%
Sex		
Female	330,255	57.8%
Male	241,193	42.2%
Race		
Unknown	172,838	30.2%
American Indian or Alaska Native	4,506	0.8%
Asian	84,721	14.8%
Black or African American	51,079	8.9%
Native Hawaiian or Other Pacific Islander	14,510	2.5%
White	243,794	42.7%
Hispanic Origin	111,315	19.5%
Year		
2006	52,932	9.3%
2007	84,020	14.7%
2008	66,465	11.6%
2009	54,117	9.5%
2010	56,794	9.9%
2011	52,052	9.1%
2012	44,551	7.8%
2013	41,355	7.2%
2014	43,034	7.5%
2015	47,158	8.3%
2016	28,970	5.1%
Vital Measurements		
Height	53.6	10.5
Diastolic Blood Pressure	58.8	7.8
Systolic Blood Pressure	99	9.8
Clinical Hypertension Category at Index		
Elevated	0	0.0%
Hypertensive	0	0.0%
Normotensive	571,448	100.0%
Post-Index BP Measures		
At Least 1 Additional BP Measure in 183 days	139,988	24.5%
At Least 2 Additional BP Measures in 183 days	43,531	7.6%
At Least 1 Additional BP Measure in 365 days	223,785	39.2%

Table 1b. Aggregated Baseline Table for Pediatric Members with a Normotensive Blood Pressure (BP) Measurement and No Pre- or Post-Index Elevated or Hypertensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
At Least 2 Additional BP Measures in 365 days	86,087	15.1%
At Least 1 Additional BP Measure in entire history	417,943	73.1%
At Least 2 Additional BP Measures in entire history	317,412	55.5%
No Additional BP Measures in 183 days	431,460	75.5%
No Additional BP Measures in 365 days	347,663	60.8%
No Additional BP Measures in entire history	153,505	26.9%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	0	0.0%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	0	0.0%
Hypertensive and No Additional Blood Pressure Measures in 183 days	0	0.0%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	0	0.0%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	0	0.0%
Hypertensive and No Additional Blood Pressure Measures in 365 days	0	0.0%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	0	0.0%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	0	0.0%
Hypertensive and No Additional Blood Pressure Measures in entire history	0	0.0%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	52	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	1	0.00%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	0	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	0	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	406	0.1%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	147	0.0%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	127	0.0%
3 Outpatient Hypertension Claims	31	0.0%
Hypertension Claims Definition 2: Any Claim	321	0.1%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	0	0.0%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	0	0.0%
Hypertensive AND Hypertension Claims Definition 1	0	0.0%
Hypertensive AND NOT Hypertension Claims Definition 1	0	0.0%
Hypertensive AND Hypertension Claims Definition 2	0	0.0%
Hypertensive AND NOT Hypertension Claims Definition 2	0	0.0%
Elevated Blood Pressure AND NOT ANY Claims Definition	0	0.0%

Table 1b. Aggregated Baseline Table for Pediatric Members with a Normotensive Blood Pressure (BP) Measurement and No Pre- or Post-Index Elevated or Hypertensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Claims and Clinical Hypertension Cross-Tabulations		
Hypertensive AND NOT ANY Claims Definition	0	0.0%
History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Angiotensin Receptor Blockers	13	0.0%
Angiotensin-Converting Enzyme Inhibitors	129	0.0%
Alpha Antagonists	22	0.0%
Alpha and Beta Adrenergic Blockers	7	0.0%
Beta-Blockers	361	0.1%
Calcium Channel Blockers	45	0.0%
Central Alpha-Agonists	1,179	0.2%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	1	0.0%
Diuretics	92	0.0%
Thiazide Diuretics	7	0.0%
Potassium-Sparing Diuretics	56	0.0%
Dopamine Receptor Agonists	0	0.0%
Combination Products	6	0.0%
Use of Anti-Hypertension Agents in Enrollment History After Blood Pressure Measurement		
Angiotensin Receptor Blockers	121	0.0%
Angiotensin-Converting Enzyme Inhibitors	457	0.1%
Alpha Antagonists	789	0.1%
Alpha and Beta Adrenergic Blockers	292	0.1%
Beta-Blockers	5,317	0.9%
Calcium Channel Blockers	820	0.1%
Central Alpha-Agonists	4,883	0.9%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	21	0.0%
Diuretics	3,366	0.6%
Thiazide Diuretics	191	0.0%
Potassium-Sparing Diuretics	2,931	0.5%
Dopamine Receptor Agonists	0	0.0%
Combination Products	81	0.0%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	12,392	2.2%
BMI - Underweight	7,759	1.4%
BMI - Normal Weight	175,095	30.6%
BMI - Overweight	26,770	4.7%
BMI - Obese	19,911	3.5%
Obesity Combo	30,592	5.4%
Type 2 Diabetes Mellitus	154	0.0%
Dyslipidemia	558	0.1%
Chronic Kidney Disease	676	0.1%
Cardiomegaly	84	0.0%
Pyelonephritis	358	0.1%
Vesicoureteral Reflux	358	0.1%

Table 1b. Aggregated Baseline Table for Pediatric Members with a Normotensive Blood Pressure (BP) Measurement and No Pre- or Post-Index Elevated or Hypertensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement		
Neurofibromatosis Type 1	101	0.0%
Hyperthyroidism	90	0.0%
Tuberous Sclerosis	23	0.0%
Systemic Lupus Erythematosus	17	0.0%
Cushing Syndrome	0	0.0%
Williams Syndrome	89	0.0%
Turner Syndrome	50	0.0%
Health Service Utilization Intensity		Mean Standard Deviation
Mean number of unique drug classes	0.7	1.2
Mean number of generics	0.8	1.2
Mean number of filled prescriptions	1	1.9
Mean number of ambulatory encounters	2.1	2.9
Mean number of emergency room encounters	0.1	0.3
Mean number of inpatient hospital encounters	0	0.2
Mean number of non-acute institutional encounters	0	0
Mean number of other ambulatory encounters	0.9	1.5

Table 1c. Aggregated Baseline Table for Pediatric Members with an Elevated or Hypertensive Blood Pressure (BP) Measurement and No Post-Index Normotensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	374,994	
Number of unique patients	374,994	
Demographics		
Mean Age	13.6	4.5
Age (years)		
3-5	44,743	11.9%
6-12	74,587	19.9%
13-17	255,664	68.2%
Sex		
Female	143,525	38.3%
Male	231,469	61.7%
Race		
Unknown	108,273	28.9%
American Indian or Alaska Native	2,972	0.8%
Asian	49,830	13.3%
Black or African American	42,168	11.2%
Native Hawaiian or Other Pacific Islander	9,185	2.4%
White	162,566	43.4%
Hispanic Origin	86,063	23.0%
Year		
2006	18,659	5.0%
2007	36,583	9.8%
2008	35,971	9.6%
2009	34,807	9.3%
2010	35,353	9.4%
2011	38,443	10.3%
2012	35,685	9.5%
2013	35,878	9.6%
2014	35,994	9.6%
2015	41,223	11.0%
2016	26,398	7.0%
Vital Measurements		
Height	61.6	9.7
Diastolic Blood Pressure	70.6	8.7
Systolic Blood Pressure	122.3	10.8
Clinical Hypertension Category at Index		
Elevated	203,731	54.3%
Hypertensive	171,263	45.7%
Normotensive	0	0.0%
Post-Index BP Measures		
At Least 1 Additional BP Measure in 183 days	81,303	21.7%
At Least 2 Additional BP Measures in 183 days	23,570	6.3%
At Least 1 Additional BP Measure in 365 days	110,346	29.4%

Table 1c. Aggregated Baseline Table for Pediatric Members with an Elevated or Hypertensive Blood Pressure (BP) Measurement and No Post-Index Normotensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
At Least 2 Additional BP Measures in 365 days	38,391	10.2%
Post-Index BP Measures		
At Least 1 Additional BP Measure in entire history	177,243	47.3%
At Least 2 Additional BP Measures in entire history	95,414	25.4%
No Additional BP Measures in 183 days	293,691	78.3%
No Additional BP Measures in 365 days	264,648	70.6%
No Additional BP Measures in entire history	197,751	52.7%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	43,180	11.5%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	13,425	3.6%
Hypertensive and No Additional Blood Pressure Measures in 183 days	128,083	34.2%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	56,794	15.1%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	21,054	5.6%
Hypertensive and No Additional Blood Pressure Measures in 365 days	114,469	30.5%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	89,353	23.8%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	50,776	13.5%
Hypertensive and No Additional Blood Pressure Measures in entire history	81,910	21.8%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	39	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	1	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	345	0.1%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	5	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	15	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	148	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	2	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	24	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	1	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	197	0.1%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	3	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	9,784	2.6%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	2,757	0.7%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	2,002	0.5%
3 Outpatient Hypertension Claims	1,609	0.4%
Hypertension Claims Definition 2: Any Claim	4,923	1.3%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	3,108	0.8%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	200,623	53.5%
Hypertensive AND Hypertension Claims Definition 1	2,040	0.5%
Hypertensive AND NOT Hypertension Claims Definition 1	169,223	45.1%
Hypertensive AND Hypertension Claims Definition 2	3,597	1.0%
Hypertensive AND NOT Hypertension Claims Definition 2	167,666	44.7%
Elevated Blood Pressure AND NOT ANY Claims Definition	199,609	53.2%

Table 1c. Aggregated Baseline Table for Pediatric Members with an Elevated or Hypertensive Blood Pressure (BP) Measurement and No Post-Index Normotensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Claims and Clinical Hypertension Cross-Tabulations		
Hypertensive AND NOT ANY Claims Definition	162,018	43.2%
History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Angiotensin Receptor Blockers	38	0.0%
Angiotensin-Converting Enzyme Inhibitors	542	0.1%
Alpha Antagonists	68	0.0%
Alpha and Beta Adrenergic Blockers	35	0.0%
Beta-Blockers	823	0.2%
Calcium Channel Blockers	175	0.0%
Central Alpha-Agonists	1,974	0.5%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	6	0.0%
Diuretics	256	0.1%
Thiazide Diuretics	75	0.0%
Potassium-Sparing Diuretics	128	0.0%
Dopamine Receptor Agonists	0	0.0%
Combination Products	28	0.0%
Use of Anti-Hypertension Agents in Enrollment History After Blood Pressure Measurement		
Angiotensin Receptor Blockers	476	0.1%
Angiotensin-Converting Enzyme Inhibitors	2,451	0.7%
Alpha Antagonists	901	0.2%
Alpha and Beta Adrenergic Blockers	816	0.2%
Beta-Blockers	7,201	1.9%
Calcium Channel Blockers	1,148	0.3%
Central Alpha-Agonists	4,562	1.2%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	102	0.0%
Diuretics	3,712	1.0%
Thiazide Diuretics	1,271	0.3%
Potassium-Sparing Diuretics	2,125	0.6%
Dopamine Receptor Agonists	0	0.0%
Combination Products	861	0.2%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	24,337	6.5%
BMI - Underweight	2,769	0.7%
BMI - Normal Weight	99,288	26.5%
BMI - Overweight	30,013	8.0%
BMI - Obese	48,406	12.9%
Obesity Combo	66,446	17.7%
Type 2 Diabetes Mellitus	889	0.2%
Dyslipidemia	2,105	0.6%
Chronic Kidney Disease	956	0.3%
Cardiomegaly	144	0.0%
Pyelonephritis	478	0.1%
Vesicoureteral Reflux	153	0.0%

Table 1c. Aggregated Baseline Table for Pediatric Members with an Elevated or Hypertensive Blood Pressure (BP) Measurement and No Post-Index Normotensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement		
Neurofibromatosis Type 1	88	0.0%
Hyperthyroidism	237	0.1%
Tuberous Sclerosis	18	0.0%
Systemic Lupus Erythematosus	58	0.0%
Cushing Syndrome	10	0.0%
Williams Syndrome	87	0.0%
Turner Syndrome	67	0.0%
Health Service Utilization Intensity	Mean	Standard Deviation
Mean number of unique drug classes	1.2	1.6
Mean number of generics	1.3	1.8
Mean number of filled prescriptions	1.7	2.8
Mean number of ambulatory encounters	2.8	3.8
Mean number of emergency room encounters	0.2	0.5
Mean number of inpatient hospital encounters	0	0.3
Mean number of non-acute institutional encounters	0	0.1
Mean number of other ambulatory encounters	1.3	2.2

Table 1d. Aggregated Baseline Table for Pediatric Members with a Normotensive Blood Pressure (BP) Measurement and No Pre-Index Elevated or Hypertensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	1,152,105	
Number of unique patients	1,152,105	
Demographics		
Mean Age	9.2	4.7
Age (years)	Number	Percent
3-5	415,491	36.1%
6-12	423,843	36.8%
13-17	312,771	27.1%
Sex		
Female	614,275	53.3%
Male	537,830	46.7%
Race	303,336	26.3%
Unknown	9,554	0.8%
American Indian or Alaska Native	167,400	14.5%
Asian	119,828	10.4%
Black or African American	32,705	2.8%
Native Hawaiian or Other Pacific Islander	519,282	45.1%
White	244,322	21.2%
Hispanic Origin		
Year		
2006	114,356	9.9%
2007	183,237	15.9%
2008	145,159	12.6%
2009	116,884	10.1%
2010	116,504	10.1%
2011	102,947	8.9%
2012	87,512	7.6%
2013	79,056	6.9%
2014	78,367	6.8%
2015	80,916	7.0%
2016	47,167	4.1%
Vital Measurements		
	Mean	Standard Deviation
Height	52.3	10.6
Diastolic Blood Pressure	58.6	7.8
Systolic Blood Pressure	99.1	9.8
Clinical Hypertension Category at Index		
	Number	Percent
Elevated	0	0.0%
Hypertensive	0	0.0%
Normotensive	1,152,105	100.0%
Post-Index BP Measures		
At Least 1 Additional BP Measure in 183 days	366,886	31.8%
At Least 2 Additional BP Measures in 183 days	138,342	12.0%
At Least 1 Additional BP Measure in 365 days	572,687	49.7%

Table 1d. Aggregated Baseline Table for Pediatric Members with a Normotensive Blood Pressure (BP) Measurement and No Pre-Index Elevated or Hypertensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
At Least 2 Additional BP Measures in 365 days	269,347	23.4%
At Least 1 Additional BP Measure in entire history	998,600	86.7%
At Least 2 Additional BP Measures in entire history	868,581	75.4%
No Additional BP Measures in 183 days	785,219	68.2%
No Additional BP Measures in 365 days	579,418	50.3%
No Additional BP Measures in entire history	153,505	13.3%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	0	0.0%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	0	0.0%
Hypertensive and No Additional Blood Pressure Measures in 183 days	0	0.0%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	0	0.0%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	0	0.0%
Hypertensive and No Additional Blood Pressure Measures in 365 days	0	0.0%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	0	0.0%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	0	0.0%
Hypertensive and No Additional Blood Pressure Measures in entire history	0	0.0%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	1	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	187	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	2	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	0	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	0	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	3,250	0.3%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	875	0.1%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	753	0.1%
3 Outpatient Hypertension Claims	329	0.0%
Hypertension Claims Definition 2: Any Claim	1,617	0.1%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	0	0.0%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	0	0.0%
Hypertensive AND Hypertension Claims Definition 1	0	0.0%
Hypertensive AND NOT Hypertension Claims Definition 1	0	0.0%
Hypertensive AND Hypertension Claims Definition 2	0	0.0%
Hypertensive AND NOT Hypertension Claims Definition 2	0	0.0%
Elevated Blood Pressure AND NOT ANY Claims Definition	0	0.0%
Hypertensive AND NOT ANY Claims Definition	0	0.0%

Table 1d. Aggregated Baseline Table for Pediatric Members with a Normotensive Blood Pressure (BP) Measurement and No Pre-Index Elevated or Hypertensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Angiotensin Receptor Blockers	23	0.0%
Angiotensin-Converting Enzyme Inhibitors	304	0.0%
Alpha Antagonists	42	0.0%
Alpha and Beta Adrenergic Blockers	16	0.0%
Beta-Blockers	727	0.1%
Calcium Channel Blockers	96	0.0%
Central Alpha-Agonists	2,919	0.3%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	1	0.0%
Diuretics	246	0.0%
Thiazide Diuretics	29	0.0%
Potassium-Sparing Diuretics	108	0.0%
Dopamine Receptor Agonists	0	0.0%
Combination Products	16	0.0%
Use of Anti-Hypertension Agents in Enrollment History After Blood Pressure Measurement		
Angiotensin Receptor Blockers	345	0.0%
Angiotensin-Converting Enzyme Inhibitors	1,797	0.2%
Alpha Antagonists	2,406	0.2%
Alpha and Beta Adrenergic Blockers	802	0.1%
Beta-Blockers	14,408	1.3%
Calcium Channel Blockers	2,204	0.2%
Central Alpha-Agonists	17,749	1.5%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	97	0.0%
Diuretics	7,857	0.7%
Thiazide Diuretics	589	0.1%
Potassium-Sparing Diuretics	6,434	0.6%
Dopamine Receptor Agonists	0	0.0%
Combination Products	284	0.0%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	30,487	2.6%
BMI - Underweight	13,741	1.2%
BMI - Normal Weight	344,098	29.9%
BMI - Overweight	59,612	5.2%
BMI - Obese	52,753	4.6%
Obesity Combo	78,636	6.8%
Type 2 Diabetes Mellitus	480	0.0%
Dyslipidemia	1,273	0.1%
Chronic Kidney Disease	1,647	0.1%
Cardiomegaly	199	0.0%
Pyelonephritis	716	0.1%
Vesicoureteral Reflux	957	0.1%
Neurofibromatosis Type 1	239	0.0%
Hyperthyroidism	190	0.0%

Table 1d. Aggregated Baseline Table for Pediatric Members with a Normotensive Blood Pressure (BP) Measurement and No Pre-Index Elevated or Hypertensive Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement		
Tuberous Sclerosis	58	0.0%
Systemic Lupus Erythematosus	38	0.0%
Cushing Syndrome	3	0.0%
Williams Syndrome	242	0.0%
Turner Syndrome	115	0.0%
Health Service Utilization Intensity		Mean Standard Deviation
Mean number of unique drug classes	0.8	1.2
Mean number of generics	0.9	1.3
Mean number of filled prescriptions	1.1	2.1
Mean number of ambulatory encounters	2.2	3
Mean number of emergency room encounters	0.1	0.3
Mean number of inpatient hospital encounters	0	0.2
Mean number of non-acute institutional encounters	0	0.1
Mean number of other ambulatory encounters	1	1.6

Table 1e. Aggregated Baseline Table for Pediatric Members with Any Valid Blood Pressure (BP) Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	9,905,304	
Number of unique patients	1,785,127	
Demographics		
Mean Age	11.2	4.5
Age (years)	Number	Percent
3-5	1,860,610	18.8%
6-12	3,868,591	39.1%
13-17	4,176,103	42.2%
Sex		
Female	883,633	49.5%
Male	901,494	50.5%
Race		
Unknown	479,880	26.9%
American Indian or Alaska Native	14,746	0.8%
Asian	265,756	14.9%
Black or African American	191,684	10.7%
Native Hawaiian or Other Pacific Islander	50,212	2.8%
White	782,849	43.9%
Hispanic Origin	398,657	22.3%
Year		
2006	245,678	2.5%
2007	627,369	6.3%
2008	768,259	7.8%
2009	887,171	9.0%
2010	991,029	10.0%
2011	1,072,906	10.8%
2012	1,112,375	11.2%
2013	1,131,675	11.4%
2014	1,154,060	11.7%
2015	1,205,989	12.2%
2016	708,793	7.2%
Vital Measurements		
Height	56.7	9.8
Diastolic Blood Pressure	62.8	9.1
Systolic Blood Pressure	106.5	12.7
Clinical Hypertension Category at Index		
Elevated	1,385,462	14.0%
Hypertensive	1,411,440	14.2%
Normotensive	7,108,402	71.8%
Post-index BP Measures		
At Least 1 Additional BP Measure in 183 days	5,167,209	52.2%
At Least 2 Additional BP Measures in 183 days	2,762,556	27.9%
At Least 1 Additional BP Measure in 365 days	6,766,804	68.3%
At Least 2 Additional BP Measures in 365 days	4,411,550	44.5%

Table 1e. Aggregated Baseline Table for Pediatric Members with Any Valid Blood Pressure (BP) Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
At Least 1 Additional BP Measure in entire history	8,924,426	90.1%
At Least 2 Additional BP Measures in entire history	7,995,176	80.7%
No Additional BP Measures in 183 days	4,738,095	47.8%
No Additional BP Measures in 365 days	3,138,500	31.7%
No Additional BP Measures in entire history	980,878	9.9%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	774,235	7.8%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	419,175	4.2%
Hypertensive and No Additional Blood Pressure Measures in 183 days	637,205	6.4%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	981,319	9.9%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	635,572	6.4%
Hypertensive and No Additional Blood Pressure Measures in 365 days	430,121	4.3%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	1,269,293	12.8%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	1,133,010	11.4%
Hypertensive and No Additional Blood Pressure Measures in entire history	142,147	1.4%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	1,020	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	20	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	8,810	0.1%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	108	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	212	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	3	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	1,509	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	15	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	348	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	17	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	2,412	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	36	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	136,958	1.4%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	70,746	0.7%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	60,779	0.6%
3 Outpatient Hypertension Claims	40,734	0.4%
Hypertension Claims Definition 2: Any Claim	100,610	1.0%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	29,171	0.3%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	1,356,291	13.7%
Hypertensive AND Hypertension Claims Definition 1	32,326	0.3%
Hypertensive AND NOT Hypertension Claims Definition 1	1,379,114	13.9%
Hypertensive AND Hypertension Claims Definition 2	45,002	0.5%
Hypertensive AND NOT Hypertension Claims Definition 2	1,366,438	13.8%
Elevated Blood Pressure AND NOT ANY Claims Definition	1,342,063	13.5%
Hypertensive AND NOT ANY Claims Definition	1,319,808	13.3%

Table 1e. Aggregated Baseline Table for Pediatric Members with Any Valid Blood Pressure (BP) Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Angiotensin Receptor Blockers	1,535	0.0%
Angiotensin-Converting Enzyme Inhibitors	23,327	0.2%
Alpha Antagonists	2,565	0.0%
Alpha and Beta Adrenergic Blockers	2,434	0.0%
Beta-Blockers	31,450	0.3%
Calcium Channel Blockers	5,809	0.1%
Central Alpha-Agonists	90,975	0.9%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	568	0.0%
Diuretics	13,935	0.1%
Thiazide Diuretics	2,803	0.0%
Potassium-Sparing Diuretics	5,226	0.1%
Dopamine Receptor Agonists	0	0.0%
Combination Products	907	0.0%
Use of Anti-Hypertension Agents in Enrollment History After Blood Pressure Measurement		
Angiotensin Receptor Blockers	11,257	0.1%
Angiotensin-Converting Enzyme Inhibitors	63,580	0.6%
Alpha Antagonists	42,820	0.4%
Alpha and Beta Adrenergic Blockers	18,000	0.2%
Beta-Blockers	228,142	2.3%
Calcium Channel Blockers	39,049	0.4%
Central Alpha-Agonists	281,576	2.8%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	3,036	0.0%
Diuretics	120,988	1.2%
Thiazide Diuretics	17,044	0.2%
Potassium-Sparing Diuretics	85,540	0.9%
Dopamine Receptor Agonists	0	0.0%
Combination Products	9,219	0.1%
Recorded history of in 183 Days Prior to Hypertension Measurement:		
Obesity	473,336	4.8%
BMI - Underweight	104,469	1.1%
BMI - Normal Weight	2,427,248	24.5%
BMI - Overweight	577,220	5.8%
BMI - Obese	699,671	7.1%
Obesity Combo	1,058,107	10.7%
Type 2 Diabetes Mellitus	29,621	0.3%
Dyslipidemia	53,416	0.5%
Chronic Kidney Disease	62,808	0.6%
Cardiomegaly	8,912	0.1%
Pyelonephritis	21,525	0.2%
Vesicoureteral Reflux	12,711	0.1%
Neurofibromatosis Type 1	5,416	0.1%
Hyperthyroidism	9,241	0.1%
Tuberous Sclerosis	1,342	0.0%

Table 1e. Aggregated Baseline Table for Pediatric Members with Any Valid Blood Pressure (BP) Measurements in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement:		
Systemic Lupus Erythematosus	5,765	0.1%
Cushing Syndrome	1,483	0.0%
Williams Syndrome	6,239	0.1%
Turner Syndrome	2,997	0.0%
Health Service Utilization Intensity	Mean	Standard Deviation
Mean number of unique drug classes	1.6	2
Mean number of generics	1.7	2.2
Mean number of filled prescriptions	2.4	3.9
Mean number of ambulatory encounters	3.8	5
Mean number of emergency room encounters	0.2	0.6
Mean number of inpatient hospital encounters	0.1	0.6
Mean number of non-acute institutional encounters	0	0.1
Mean number of other ambulatory encounters	2.1	3.8

Table 1f. Aggregated Baseline Table for Children with at least Three Valid Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	781,772	
Number of unique patients	781,772	
Demographics		
Mean Age	6.6	3.3
Age (Years)	Number	Percent
3-12	781,772	100.0%
Sex		
Female	373,763	47.8%
Male	408,009	52.2%
Race		
Unknown	182,977	23.4%
American Indian or Alaska Native	6,912	0.9%
Asian	120,504	15.4%
Black or African American	90,003	11.5%
Native Hawaiian or Other Pacific Islander	25,301	3.2%
White	356,075	45.5%
Hispanic Origin	181,109	23.2%
Year		
2006	62,619	8.0%
2007	100,477	12.9%
2008	84,909	10.9%
2009	76,453	9.8%
2010	79,207	10.1%
2011	72,406	9.3%
2012	68,213	8.7%
2013	63,905	8.2%
2014	64,984	8.3%
2015	68,030	8.7%
2016	40,569	5.2%
Vital Measurements		
Height	46.9	8.6
Diastolic Blood Pressure	59.7	8.9
Systolic Blood Pressure	99.6	11.2
Clinical Hypertension Category at Index		
Elevated	91,810	11.7%
Hypertensive	139,741	17.9%
Normotensive	550,221	70.4%
Post-Index BP Measures		
At Least 1 Additional BP Measure in 183 days	340,326	43.5%
At Least 2 Additional BP Measures in 183 days	139,033	17.8%
At Least 1 Additional BP Measure in 365 days	547,967	70.1%
At Least 2 Additional BP Measures in 365 days	282,957	36.2%
At Least 1 Additional BP Measure in entire history	781,772	100.0%
At Least 2 Additional BP Measures in entire history	781,772	100.0%

Table 1f. Aggregated Baseline Table for Children with at least Three Valid Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
No Additional BP Measures in 183 days	441,446	56.5%
No Additional BP Measures in 365 days	233,805	29.9%
No Additional BP Measures in entire history	0	0.0%
Post-Index BP Measures among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	66,400	8.5%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	27,902	3.6%
Hypertensive and No Additional Blood Pressure Measures in 183 days	73,341	9.4%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	101,524	13.0%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	52,737	6.7%
Hypertensive and No Additional Blood Pressure Measures in 365 days	38,217	4.9%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	139,741	17.9%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	139,741	17.9%
Hypertensive and No Additional Blood Pressure Measures in entire history	0	0.0%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	14	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	266	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	6	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	2	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	35	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	10	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	90	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	3	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	5,289	0.7%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	1,397	0.2%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	1,130	0.1%
3 Outpatient Hypertension Claims	704	0.1%
Hypertension Claims Definition 2: Any Claim	2,407	0.3%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	795	0.1%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	91,015	11.6%
Hypertensive AND Hypertension Claims Definition 1	714	0.1%
Hypertensive AND NOT Hypertension Claims Definition 1	139,027	17.8%
Hypertensive AND Hypertension Claims Definition 2	1,203	0.2%
Hypertensive AND NOT Hypertension Claims Definition 2	138,538	17.7%
Elevated Blood Pressure AND NOT ANY Claims Definition	90,756	11.6%
Hypertensive AND NOT ANY Claims Definition	136,315	17.4%
History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Angiotensin Receptor Blockers	14	0.0%
Angiotensin-Converting Enzyme Inhibitors	277	0.0%
Alpha Antagonists	16	0.0%

Table 1f. Aggregated Baseline Table for Children with at least Three Valid Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Alpha and Beta Adrenergic Blockers	17	0.0%
Beta-Blockers	370	0.0%
Calcium Channel Blockers	28	0.0%
Central Alpha-Agonists	2,622	0.3%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	4	0.0%
Diuretics	226	0.0%
Thiazide Diuretics	41	0.0%
Potassium-Sparing Diuretics	34	0.0%
Dopamine Receptor Agonists	0	0.0%
Combination Products	10	0.0%
Use of Anti-Hypertension Agents in Enrollment History After Blood Pressure Measurement		
Angiotensin Receptor Blockers	287	0.0%
Angiotensin-Converting Enzyme Inhibitors	1,869	0.2%
Alpha Antagonists	1,452	0.2%
Alpha and Beta Adrenergic Blockers	357	0.0%
Beta-Blockers	7,711	1.0%
Calcium Channel Blockers	951	0.1%
Central Alpha-Agonists	18,509	2.4%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	64	0.0%
Diuretics	4,228	0.5%
Thiazide Diuretics	378	0.0%
Potassium-Sparing Diuretics	3,082	0.4%
Dopamine Receptor Agonists	0	0.0%
Combination Products	210	0.0%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	23,106	3.0%
BMI - Underweight	9,998	1.3%
BMI - Normal Weight	221,565	28.3%
BMI - Overweight	40,234	5.1%
BMI - Obese	42,705	5.5%
Obesity Combo	62,138	7.9%
Type 2 Diabetes Mellitus	376	0.0%
Dyslipidemia	811	0.1%
Chronic Kidney Disease	1,983	0.3%
Cardiomegaly	200	0.0%
Pyelonephritis	470	0.1%
Vesicoureteral Reflux	1,083	0.1%
Neurofibromatosis Type 1	225	0.0%
Hyperthyroidism	107	0.0%
Tuberous Sclerosis	61	0.0%
Systemic Lupus Erythematosus	23	0.0%
Cushing Syndrome	10	0.0%
Williams Syndrome	312	0.0%

Table 1f. Aggregated Baseline Table for Children with at least Three Valid Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement		
Turner Syndrome	122	0.0%
Health Service Utilization Intensity	Mean	Standard Deviation
Mean number of unique drug classes	1	1.4
Mean number of generics	1	1.5
Mean number of filled prescriptions	1.3	2.3
Mean number of ambulatory encounters	2.5	3.6
Mean number of emergency room encounters	0.1	0.4
Mean number of inpatient hospital encounters	0	0.2
Mean number of non-acute institutional encounters	0	0.1
Mean number of other ambulatory encounters	1.1	1.9

Table 1g. Aggregated Baseline Table for Children with at least Three Hypertensive Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	70,315	
Number of unique patients	70,315	
Demographics		
Mean Age	6	3.1
Age (Years)	Number	Percent
3-12	70,315	100.0%
Sex		
Female	27,332	38.9%
Male	42,983	61.1%
Race		
Unknown	17,440	24.8%
American Indian or Alaska Native	697	1.0%
Asian	11,106	15.8%
Black or African American	9,700	13.8%
Native Hawaiian or Other Pacific Islander	2,113	3.0%
White	29,259	41.6%
Hispanic Origin	20,238	28.8%
Year		
2006	5,481	7.8%
2007	9,207	13.1%
2008	7,515	10.7%
2009	7,286	10.4%
2010	7,230	10.3%
2011	6,550	9.3%
2012	6,163	8.8%
2013	5,728	8.1%
2014	5,576	7.9%
2015	5,958	8.5%
2016	3,621	5.1%
Vital Measurements		
Height	45.7	8.3
Diastolic Blood Pressure	65.1	10
Systolic Blood Pressure	107.6	12.8
Clinical Hypertension Category at Index		
Elevated	7,726	11.0%
Hypertensive	40,547	57.7%
Normotensive	22,042	31.3%
Post-Index BP Measures		
At Least 1 Additional BP Measure in 183 days	45,395	64.6%
At Least 2 Additional BP Measures in 183 days	26,296	37.4%
At Least 1 Additional BP Measure in 365 days	59,814	85.1%
At Least 2 Additional BP Measures in 365 days	44,313	63.0%
At Least 1 Additional BP Measure in entire history	70,315	100.0%
At Least 2 Additional BP Measures in entire history	70,315	100.0%

Table 1g. Aggregated Baseline Table for Children with at least Three Hypertensive Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
No Additional BP Measures in 183 days	24,920	35.4%
No Additional BP Measures in 365 days	10,501	14.9%
No Additional BP Measures in entire history	0	0.0%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	25,098	35.7%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	13,644	19.4%
Hypertensive and No Additional Blood Pressure Measures in 183 days	15,449	22.0%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	33,600	47.8%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	23,357	33.2%
Hypertensive and No Additional Blood Pressure Measures in 365 days	6,947	9.9%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	40,547	57.7%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	40,547	57.7%
Hypertensive and No Additional Blood Pressure Measures in entire history	0	0.0%
Blood Pressure Claims Codes:		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	6	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	103	0.1%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	3	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	1	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	9	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	4	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	67	0.1%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	3	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	2,626	3.7%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	1,023	1.5%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	835	1.2%
3 Outpatient Hypertension Claims	575	0.8%
Hypertension Claims Definition 2: Any Claim	1,528	2.2%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	336	0.5%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	7,390	10.5%
Hypertensive AND Hypertension Claims Definition 1	632	0.9%
Hypertensive AND NOT Hypertension Claims Definition 1	39,915	56.8%
Hypertensive AND Hypertension Claims Definition 2	964	1.4%
Hypertensive AND NOT Hypertension Claims Definition 2	39,583	56.3%
Elevated Blood Pressure AND NOT ANY Claims Definition	7,245	10.3%
Hypertensive AND NOT ANY Claims Definition	38,209	54.3%
History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Angiotensin Receptor Blockers	5	0.0%
Angiotensin-Converting Enzyme Inhibitors	81	0.1%
Alpha Antagonists	3	0.0%

Table 1g. Aggregated Baseline Table for Children with at least Three Hypertensive Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Alpha and Beta Adrenergic Blockers	5	0.0%
Beta-Blockers	83	0.1%
Calcium Channel Blockers	9	0.0%
Central Alpha-Agonists	516	0.7%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	2	0.0%
Diuretics	84	0.1%
Thiazide Diuretics	18	0.0%
Potassium-Sparing Diuretics	13	0.0%
Dopamine Receptor Agonists	0	0.0%
Combination Products	2	0.0%
Use of Anti-Hypertension Agents in Enrollment History After Blood Pressure Measurement		
Angiotensin Receptor Blockers	108	0.2%
Angiotensin-Converting Enzyme Inhibitors	815	1.2%
Alpha Antagonists	198	0.3%
Alpha and Beta Adrenergic Blockers	99	0.1%
Beta-Blockers	1,138	1.6%
Calcium Channel Blockers	189	0.3%
Central Alpha-Agonists	3,233	4.6%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	27	0.0%
Diuretics	738	1.0%
Thiazide Diuretics	176	0.3%
Potassium-Sparing Diuretics	299	0.4%
Dopamine Receptor Agonists	0	0.0%
Combination Products	93	0.1%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	4,049	5.8%
BMI - Underweight	806	1.1%
BMI - Normal Weight	16,061	22.8%
BMI - Overweight	3,912	5.6%
BMI - Obese	7,193	10.2%
Obesity Combo	10,445	14.9%
Type 2 Diabetes Mellitus	119	0.2%
Dyslipidemia	141	0.2%
Chronic Kidney Disease	484	0.7%
Cardiomegaly	43	0.1%
Pyelonephritis	77	0.1%
Vesicoureteral Reflux	171	0.2%
Neurofibromatosis Type 1	56	0.1%
Hyperthyroidism	24	0.0%
Tuberous Sclerosis	15	0.0%
Systemic Lupus Erythematosus	12	0.0%
Cushing Syndrome	7	0.0%
Williams Syndrome	76	0.1%

Table 1g. Aggregated Baseline Table for Children with at least Three Hypertensive Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement		
Turner Syndrome	41	0.1%
Health Service Utilization Intensity:	Mean	Standard Deviation
Mean number of unique drug classes	1.5	1.8
Mean number of generics	1.6	2
Mean number of filled prescriptions	2.2	3.4
Mean number of ambulatory encounters	3.4	5.2
Mean number of emergency room encounters	0.2	0.6
Mean number of inpatient hospital encounters	0	0.4
Mean number of non-acute institutional encounters	0	0.2
Mean number of other ambulatory encounters	1.5	3.1

Table 1h. Aggregated Baseline Table for Teens with at least Three Valid Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	551,246	
Number of unique patients	551,246	
Demographics	Mean	Standard Deviation
Mean Age	14.4	1.2
Age (Years)	Number	Percent
3-12	551,246	100.0%
Sex		
Female	286,955	52.1%
Male	264,291	47.9%
Race		
Unknown	124,351	22.6%
American Indian or Alaska Native	5,103	0.9%
Asian	67,635	12.3%
Black or African American	68,835	12.5%
Native Hawaiian or Other Pacific Islander	16,610	3.0%
White	268,712	48.7%
Hispanic Origin	124,666	22.6%
Year		
2006	41,460	7.5%
2007	57,880	10.5%
2008	50,909	9.2%
2009	51,108	9.3%
2010	55,534	10.1%
2011	54,348	9.9%
2012	51,164	9.3%
2013	51,237	9.3%
2014	53,178	9.6%
2015	53,666	9.7%
2016	30,762	5.6%
Vital Measurements	Mean	Standard Deviation
Height	64.5	3.5
Diastolic Blood Pressure	65.2	8.6
Systolic Blood Pressure	112	11.4
Clinical Hypertension Category at Index	Number	Percent
Elevated	93,332	16.9%
Hypertensive	56,181	10.2%
Normotensive	401,733	72.9%
Post-Index BP Measures		
At Least 1 Additional BP Measure in 183 days	314,169	57.0%
At Least 2 Additional BP Measures in 183 days	158,145	28.7%
At Least 1 Additional BP Measure in 365 days	429,230	77.9%
At Least 2 Additional BP Measures in 365 days	279,024	50.6%
At Least 1 Additional BP Measure in entire history	551,246	100.0%
At Least 2 Additional BP Measures in entire history	551,246	100.0%

Table 1h. Aggregated Baseline Table for Teens with at least Three Valid Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
No Additional BP Measures in 183 days	237,077	43.0%
No Additional BP Measures in 365 days	122,016	22.1%
No Additional BP Measures in entire history	0	0.0%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	37,879	6.9%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	20,922	3.8%
Hypertensive and No Additional Blood Pressure Measures in 183 days	18,302	3.3%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	46,960	8.5%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	32,846	6.0%
Hypertensive and No Additional Blood Pressure Measures in 365 days	9,221	1.7%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	56,181	10.2%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	56,181	10.2%
Hypertensive and No Additional Blood Pressure Measures in entire history	0	0.0%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	18	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	2	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	491	0.1%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	12	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	4	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	113	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	3	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	2	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	135	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	4	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	9,992	1.8%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	3,238	0.6%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	2,559	0.5%
3 Outpatient Hypertension Claims	1,757	0.3%
Hypertension Claims Definition 2: Any Claim	5,368	1.0%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	2,570	0.5%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	90,762	16.5%
Hypertensive AND Hypertension Claims Definition 1	1,674	0.3%
Hypertensive AND NOT Hypertension Claims Definition 1	54,507	9.9%
Hypertensive AND Hypertension Claims Definition 2	2,672	0.5%
Hypertensive AND NOT Hypertension Claims Definition 2	53,509	9.7%
Elevated Blood Pressure AND NOT ANY Claims Definition	89,947	16.3%
Hypertensive AND NOT ANY Claims Definition	50,221	9.1%
History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Angiotensin Receptor Blockers	49	0.0%
Angiotensin-Converting Enzyme Inhibitors	619	0.1%
Alpha Antagonists	63	0.0%

Table 1h. Aggregated Baseline Table for Teens with at least Three Valid Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Alpha and Beta Adrenergic Blockers	39	0.0%
Beta-Blockers	1,053	0.2%
Central Alpha-Agonists	3,551	0.6%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	5	0.0%
Diuretics	295	0.1%
Thiazide Diuretics	53	0.0%
Potassium-Sparing Diuretics	152	0.0%
Dopamine Receptor Agonists	0	0.0%
Combination Products	25	0.0%
Use of Anti-Hypertension Agents in Enrollment History After Blood Pressure Measurement		
Angiotensin Receptor Blockers	596	0.1%
Angiotensin-Converting Enzyme Inhibitors	3,215	0.6%
Alpha Antagonists	2,684	0.5%
Alpha and Beta Adrenergic Blockers	1,141	0.2%
Beta-Blockers	16,271	3.0%
Calcium Channel Blockers	2,733	0.5%
Central Alpha-Agonists	11,176	2.0%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	134	0.0%
Diuretics	8,483	1.5%
Thiazide Diuretics	1,199	0.2%
Potassium-Sparing Diuretics	6,550	1.2%
Dopamine Receptor Agonists	0	0.0%
Combination Products	703	0.1%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	26,210	4.8%
BMI - Underweight	3,238	0.6%
BMI - Normal Weight	115,418	20.9%
BMI - Overweight	30,239	5.5%
BMI - Obese	35,434	6.4%
Obesity Combo	56,807	10.3%
Type 2 Diabetes Mellitus	1,091	0.2%
Dyslipidemia	2,598	0.5%
Chronic Kidney Disease	1,081	0.2%
Cardiomegaly	137	0.0%
Pyelonephritis	518	0.1%
Vesicoureteral Reflux	186	0.0%
Neurofibromatosis Type 1	180	0.0%
Hyperthyroidism	359	0.1%
Tuberous Sclerosis	39	0.0%
Systemic Lupus Erythematosus	107	0.0%
Cushing Syndrome	14	0.0%
Williams Syndrome	118	0.0%
Turner Syndrome	127	0.0%

Table 1h. Aggregated Baseline Table for Teens with at least Three Valid Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Health Service Utilization Intensity		
Mean number of unique drug classes	1	1.4
Mean number of generics	1.1	1.6
Mean number of filled prescriptions	1.5	2.7
Mean number of ambulatory encounters	2.5	3.2
Mean number of emergency room encounters	0.1	0.4
Mean number of inpatient hospital encounters	0	0.2
Mean number of non-acute institutional encounters	0	0
Mean number of other ambulatory encounters	1.2	2

Table 1i. Aggregated Baseline Table for Teens with at least Three Hypertensive Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	47,928	
Number of unique patients	47,928	
Demographics	Mean	Standard Deviation
Mean Age	14.6	1.2
Age (Years)	Number	Percent
13-17	47,928	100.0%
Sex		
Female	18,497	38.6%
Male	29,431	61.4%
Race		
Unknown	10,027	20.9%
American Indian or Alaska Native	509	1.1%
Asian	4,274	8.9%
Black or African American	6,768	14.1%
Native Hawaiian or Other Pacific Islander	1,499	3.1%
White	24,851	51.9%
Hispanic Origin	11,614	24.2%
Year		
2006	4,721	9.9%
2007	6,195	12.9%
2008	4,891	10.2%
2009	4,512	9.4%
2010	4,938	10.3%
2011	4,549	9.5%
2012	4,051	8.5%
2013	4,014	8.4%
2014	3,958	8.3%
2015	3,886	8.1%
2016	2,213	4.6%
Vital Measurements	Mean	Standard Deviation
Height	66	3.6
Diastolic Blood Pressure	71.5	9.7
Systolic Blood Pressure	123.7	12.6
Clinical Hypertension Category at Index	Number	Percent
Elevated	10,666	22.3%
Hypertensive	21,544	45.0%
Normotensive	15,718	32.8%
Post-index BP Measures		
At Least 1 Additional BP Measure in 183 days	34,474	71.9%
At Least 2 Additional BP Measures in 183 days	22,164	46.2%
At Least 1 Additional BP Measure in 365 days	42,106	87.9%
At Least 2 Additional BP Measures in 365 days	33,788	70.5%
At Least 1 Additional BP Measure in entire history	47,928	100.0%
At Least 2 Additional BP Measures in entire history	47,928	100.0%

Table 1i. Aggregated Baseline Table for Teens with at least Three Hypertensive Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
No Additional BP Measures in 183 days	13,454	28.1%
No Additional BP Measures in 365 days	5,822	12.1%
No Additional BP Measures in entire history	0	0.0%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	15,641	32.6%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	9,896	20.6%
Hypertensive and No Additional Blood Pressure Measures in 183 days	5,903	12.3%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	18,811	39.2%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	14,740	30.8%
Hypertensive and No Additional Blood Pressure Measures in 365 days	2,733	5.7%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	21,544	45.0%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	21,544	45.0%
Hypertensive and No Additional Blood Pressure Measures in entire history	0	0.0%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	4	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	2	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	187	0.4%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	5	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	45	0.1%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	2	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	2	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	93	0.2%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	4	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	5,597	11.7%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	2,336	4.9%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	1,854	3.9%
3 Outpatient Hypertension Claims	1,460	3.0%
Hypertension Claims Definition 2: Any Claim	3,510	7.3%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	1,234	2.6%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	9,432	19.7%
Hypertensive AND Hypertension Claims Definition 1	1,470	3.1%
Hypertensive AND NOT Hypertension Claims Definition 1	20,074	41.9%
Hypertensive AND Hypertension Claims Definition 2	2,211	4.6%
Hypertensive AND NOT Hypertension Claims Definition 2	19,333	40.3%
Elevated Blood Pressure AND NOT ANY Claims Definition	9,019	18.8%
Hypertensive AND NOT ANY Claims Definition	17,000	35.5%
History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Angiotensin Receptor Blockers	20	0.0%
Angiotensin-Converting Enzyme Inhibitors	232	0.5%
Alpha Antagonists	11	0.0%

Table 1i. Aggregated Baseline Table for Teens with at least Three Hypertensive Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Alpha and Beta Adrenergic Blockers	14	0.0%
Beta-Blockers	197	0.4%
Calcium Channel Blockers	46	0.1%
Central Alpha-Agonists	646	1.3%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	3	0.0%
Diuretics	83	0.2%
Thiazide Diuretics	33	0.1%
Potassium-Sparing Diuretics	27	0.1%
Dopamine Receptor Agonists	0	0.0%
Combination Products	14	0.0%
Use of Anti-Hypertension Agents in Enrollment History After Blood Pressure Measurement		
Angiotensin Receptor Blockers	295	0.6%
Angiotensin-Converting Enzyme Inhibitors	1,664	3.5%
Alpha Antagonists	486	1.0%
Alpha and Beta Adrenergic Blockers	395	0.8%
Beta-Blockers	3,000	6.3%
Calcium Channel Blockers	595	1.2%
Central Alpha-Agonists	2,080	4.3%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	59	0.1%
Diuretics	1,419	3.0%
Thiazide Diuretics	645	1.3%
Potassium-Sparing Diuretics	599	1.2%
Dopamine Receptor Agonists	0	0.0%
Combination Products	440	0.9%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	5,316	11.1%
BMI - Underweight	86	0.2%
BMI - Normal Weight	5,466	11.4%
BMI - Overweight	2,632	5.5%
BMI - Obese	6,736	14.1%
Obesity Combo	10,838	22.6%
Type 2 Diabetes Mellitus	386	0.8%
Dyslipidemia	499	1.0%
Chronic Kidney Disease	260	0.5%
Cardiomegaly	26	0.1%
Pyelonephritis	55	0.1%
Vesicoureteral Reflux	25	0.1%
Neurofibromatosis Type 1	25	0.1%
Hyperthyroidism	63	0.1%
Tuberous Sclerosis	7	0.0%
Systemic Lupus Erythematosus	39	0.1%
Cushing Syndrome	4	0.0%
Williams Syndrome	16	0.0%

Table 1i. Aggregated Baseline Table for Teens with at least Three Hypertensive Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement		
Turner Syndrome	18	0.0%
Health Service Utilization Intensity	Mean	Standard Deviation
Mean number of unique drug classes	1.4	1.8
Mean number of generics	1.5	2
Mean number of filled prescriptions	2.3	3.8
Mean number of ambulatory encounters	3.1	4.1
Mean number of emergency room encounters	0.2	0.6
Mean number of inpatient hospital encounters	0	0.4
Mean number of non-acute institutional encounters	0	0.1
Mean number of other ambulatory encounters	1.6	2.8

Table 1j. Aggregated Baseline Table for Children with at least Three Elevated Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	22,465	
Number of unique patients	22,465	
Demographics		
Mean Age	7.8	3.8
Ages (Years)	Number	Percent
3-12	22,465	100.0%
Sex		
Female	9,202	41.0%
Male	13,263	59.0%
Race		
Unknown	5,476	24.4%
American Indian or Alaska Native	215	1.0%
Asian	2,823	12.6%
Black or African American	3,055	13.6%
Native Hawaiian or Other Pacific Islander	567	2.5%
White	10,329	46.0%
Hispanic Origin	5,805	25.8%
Year		
2006	1,972	8.8%
2007	2,944	13.1%
2008	2,495	11.1%
2009	2,369	10.5%
2010	2,198	9.8%
2011	1,994	8.9%
2012	1,820	8.1%
2013	1,750	7.8%
2014	1,857	8.3%
2015	1,968	8.8%
2016	1,098	4.9%
Vital Measurements		
Height	50.2	10.3
Diastolic Blood Pressure	62.7	8.3
Systolic Blood Pressure	105.5	11.4
Clinical Hypertension Category at Index		
Elevated	9,685	43.1%
Hypertensive	2,780	12.4%
Normotensive	10,000	44.5%
Post-Index BP Measures		
At Least 1 Additional BP Measure in 183 days	13,981	62.2%
At Least 2 Additional BP Measures in 183 days	7,689	34.2%
At Least 1 Additional BP Measure in 365 days	18,740	83.4%
At Least 2 Additional BP Measures in 365 days	13,654	60.8%
At Least 1 Additional BP Measure in entire history	22,465	100.0%
At Least 2 Additional BP Measures in entire history	22,465	100.0%

Table 1j. Aggregated Baseline Table for Children with at least Three Elevated Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
No Additional BP Measures in 183 days	8,484	37.8%
No Additional BP Measures in 365 days	3,725	16.6%
No Additional BP Measures in entire history	0	0.0%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	1,807	8.0%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	970	4.3%
Hypertensive and No Additional Blood Pressure Measures in 183 days	973	4.3%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	2,365	10.5%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	1,729	7.7%
Hypertensive and No Additional Blood Pressure Measures in 365 days	415	1.8%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	2,780	12.4%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	2,780	12.4%
Hypertensive and No Additional Blood Pressure Measures in entire history	0	0.0%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	13	0.1%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	5	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	1	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	304	1.4%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	53	0.2%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	44	0.2%
3 Outpatient Hypertension Claims	17	0.1%
Hypertension Claims Definition 2: Any Claim	94	0.4%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	117	0.5%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	9,568	42.6%
Hypertensive AND Hypertension Claims Definition 1	9	0.0%
Hypertensive AND NOT Hypertension Claims Definition 1	2,771	12.3%
Hypertensive AND Hypertension Claims Definition 2	16	0.1%
Hypertensive AND NOT Hypertension Claims Definition 2	2,764	12.3%
Elevated Blood Pressure AND NOT ANY Claims Definition	9,542	42.5%
Hypertensive AND NOT ANY Claims Definition	2,712	12.1%
History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Angiotensin Receptor Blockers	2	0.0%
Angiotensin-Converting Enzyme Inhibitors	16	0.1%

Table 1j. Aggregated Baseline Table for Children with at least Three Elevated Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Alpha Antagonists	1	0.0%
Alpha and Beta Adrenergic Blockers	3	0.0%
Beta-Blockers	21	0.1%
Calcium Channel Blockers	4	0.0%
Central Alpha-Agonists	138	0.6%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	0	0.0%
Diuretics	15	0.1%
Thiazide Diuretics	3	0.0%
Potassium-Sparing Diuretics	3	0.0%
Dopamine Receptor Agonists	0	0.0%
Combination Products	0	0.0%
Use of Anti-Hypertension Agents in Enrollment History After Blood Pressure Measurement		
Angiotensin Receptor Blockers	21	0.1%
Angiotensin-Converting Enzyme Inhibitors	105	0.5%
Use of Anti-Hypertension Agents in Enrollment History After Blood Pressure Measurement		
Alpha Antagonists	77	0.3%
Alpha and Beta Adrenergic Blockers	20	0.1%
Beta-Blockers	369	1.6%
Calcium Channel Blockers	55	0.2%
Central Alpha-Agonists	875	3.9%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	4	0.0%
Diuretics	174	0.8%
Thiazide Diuretics	24	0.1%
Potassium-Sparing Diuretics	112	0.5%
Dopamine Receptor Agonists	0	0.0%
Combination Products	16	0.1%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	1,241	5.5%
BMI - Underweight	226	1.0%
BMI - Normal Weight	4,490	20.0%
BMI - Overweight	1,180	5.3%
BMI - Obese	1,835	8.2%
Obesity Combo	2,887	12.9%
Type 2 Diabetes Mellitus	33	0.1%
Dyslipidemia	56	0.2%
Chronic Kidney Disease	74	0.3%
Cardiomegaly	12	0.1%
Pyelonephritis	18	0.1%
Vesicoureteral Reflux	29	0.1%
Neurofibromatosis Type 1	11	0.0%
Hyperthyroidism	8	0.0%
Tuberous Sclerosis	1	0.0%
Systemic Lupus Erythematosus	1	0.0%

Table 1j. Aggregated Baseline Table for Children with at least Three Elevated Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement		
Cushing Syndrome	1	0.0%
Williams Syndrome	15	0.1%
Turner Syndrome	8	0.0%
Health Service Utilization Intensity	Mean	Standard Deviation
Mean number of unique drug classes	1.2	1.6
Mean number of generics	1.3	1.7
Mean number of filled prescriptions	1.8	2.9
Mean number of ambulatory encounters	3	3.9
Mean number of emergency room encounters	0.2	0.4
Mean number of inpatient hospital encounters	0	0.2
Mean number of non-acute institutional encounters	0	0
Mean number of other ambulatory encounters	1.4	2.2

Table 1k. Aggregated Baseline Table for Teens with at least Three Elevated Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	60,952	
Number of unique patients	60,952	
Demographics		
Mean Age	14.2	1.1
Age (Years)	Number	Percent
13-17	60,952	100.0%
Sex		
Female	24,747	40.6%
Male	36,205	59.4%
Race		
Unknown	13,549	22.2%
American Indian or Alaska Native	621	1.0%
Asian	5,878	9.6%
Black or African American	8,634	14.2%
Native Hawaiian or Other Pacific Islander	1,650	2.7%
White	30,620	50.2%
Hispanic Origin	15,049	24.7%
Year		
2006	3,979	6.5%
2007	5,833	9.6%
2008	5,520	9.1%
2009	5,504	9.0%
2010	5,931	9.7%
2011	6,146	10.1%
2012	5,869	9.6%
2013	5,944	9.8%
2014	6,237	10.2%
2015	6,323	10.4%
2016	3,666	6.0%
Vital Measurements		
Height	65.2	3.4
Diastolic Blood Pressure	66.3	7.9
Systolic Blood Pressure	117.5	9.3
Clinical Hypertension Category at Index		
Elevated	27,901	45.8%
Hypertensive	4,166	6.8%
Normotensive	28,885	47.4%
Post-Index BP Measures		
At Least 1 Additional BP Measure in 183 days	40,490	66.4%
At Least 2 Additional BP Measures in 183 days	23,287	38.2%
At Least 1 Additional BP Measure in 365 days	52,233	85.7%
At Least 2 Additional BP Measures in 365 days	39,122	64.2%
At Least 1 Additional BP Measure in entire history	60,952	100.0%
At Least 2 Additional BP Measures in entire history	60,952	100.0%

Table 1k. Aggregated Baseline Table for Teens with at least Three Elevated Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
No Additional BP Measures in 183 days	20,462	33.6%
No Additional BP Measures in 365 days	8,719	14.3%
No Additional BP Measures in entire history	0	0.0%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	3,094	5.1%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	1,825	3.0%
Hypertensive and No Additional Blood Pressure Measures in 183 days	1,072	1.8%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	3,739	6.1%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	2,880	4.7%
Hypertensive and No Additional Blood Pressure Measures in 365 days	427	0.7%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	4,166	6.8%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	4,166	6.8%
Hypertensive and No Additional Blood Pressure Measures in entire history	0	0.0%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	2	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	64	0.1%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	1	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	2	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	27	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	6	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	1,101	1.8%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	244	0.4%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	206	0.3%
3 Outpatient Hypertension Claims	83	0.1%
Hypertension Claims Definition 2: Any Claim	448	0.7%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	530	0.9%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	27,371	44.9%
Hypertensive AND Hypertension Claims Definition 1	35	0.1%
Hypertensive AND NOT Hypertension Claims Definition 1	4,131	6.8%
Hypertensive AND Hypertension Claims Definition 2	61	0.1%
Hypertensive AND NOT Hypertension Claims Definition 2	4,105	6.7%
Elevated Blood Pressure AND NOT ANY Claims Definition	27,213	44.6%
Hypertensive AND NOT ANY Claims Definition	3,965	6.5%
History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Angiotensin Receptor Blockers	6	0.0%
Angiotensin-Converting Enzyme Inhibitors	81	0.1%
Alpha Antagonists	10	0.0%

Table 1k. Aggregated Baseline Table for Teens with at least Three Elevated Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Blood Pressure Measurement		
Alpha and Beta Adrenergic Blockers	1	0.0%
Beta-Blockers	117	0.2%
Calcium Channel Blockers	16	0.0%
Central Alpha-Agonists	503	0.8%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	0	0.0%
Diuretics	29	0.0%
Thiazide Diuretics	1	0.0%
Potassium-Sparing Diuretics	16	0.0%
Dopamine Receptor Agonists	0	0.0%
Combination Products	3	0.0%
Use of Anti-Hypertension Agents in Enrollment History After Blood Pressure Measurement		
Angiotensin Receptor Blockers	61	0.1%
Angiotensin-Converting Enzyme Inhibitors	360	0.6%
Alpha Antagonists	401	0.7%
Alpha and Beta Adrenergic Blockers	139	0.2%
Beta-Blockers	2,153	3.5%
Calcium Channel Blockers	358	0.6%
Central Alpha-Agonists	1,696	2.8%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	21	0.0%
Diuretics	873	1.4%
Thiazide Diuretics	129	0.2%
Potassium-Sparing Diuretics	635	1.0%
Dopamine Receptor Agonists	0	0.0%
Combination Products	47	0.1%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	3,790	6.2%
BMI - Underweight	165	0.3%
BMI - Normal Weight	11,033	18.1%
BMI - Overweight	4,433	7.3%
BMI - Obese	6,247	10.2%
Obesity Combo	9,317	15.3%
Type 2 Diabetes Mellitus	209	0.3%
Dyslipidemia	400	0.7%
Chronic Kidney Disease	162	0.3%
Cardiomegaly	14	0.0%
Pyelonephritis	39	0.1%
Vesicoureteral Reflux	27	0.0%
Neurofibromatosis Type 1	26	0.0%
Hyperthyroidism	49	0.1%
Tuberous Sclerosis	6	0.0%
Systemic Lupus Erythematosus	20	0.0%
Cushing Syndrome	2	0.0%
Williams Syndrome	14	0.0%

Table 1k. Aggregated Baseline Table for Teens with at least Three Elevated Blood Pressure (BP) Measurements within 36 Months in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement		
Turner Syndrome	12	0.0%
Health Service Utilization Intensity	Mean	Standard Deviation
Mean number of unique drug classes	1.2	1.6
Mean number of generics	1.3	1.7
Mean number of filled prescriptions	1.8	2.9
Mean number of ambulatory encounters	2.8	3.5
Mean number of emergency room encounters	0.2	0.5
Mean number of inpatient hospital encounters	0	0.3
Mean number of non-acute institutional encounters	0	0
Mean number of other ambulatory encounters	1.3	2.2

Table 1I. Aggregated Baseline Table for Children with Hypertension Claims Definition 1 (at least 1 Inpatient or 2 Outpatient Claims) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	1,838	
Number of unique patients	1,838	
Demographics		
Mean Age	8.6	3.1
Age (Years)	Number	Percent
3-12	1,838	100.0%
Sex		
Female	748	40.7%
Male	1,090	59.3%
Race		
Unknown	431	23.4%
American Indian or Alaska Native	15	0.8%
Asian	299	16.3%
Black or African American	255	13.9%
Native Hawaiian or Other Pacific Islander	62	3.4%
White	776	42.2%
Hispanic Origin	439	23.9%
Year		
2006	144	7.8%
2007	184	10.0%
2008	184	10.0%
2009	204	11.1%
2010	233	12.7%
2011	179	9.7%
2012	166	9.0%
2013	142	7.7%
2014	169	9.2%
2015	144	7.8%
2016	89	4.8%
Vital Measurements		
Height	53.3	8.3
Diastolic Blood Pressure	74.5	12.7
Systolic Blood Pressure	124.2	15.9
Clinical Hypertension Category at Index		
Elevated	57	3.1%
Hypertensive	740	40.3%
Normotensive	123	6.7%
Post-Index BP Measures		
At Least 1 Additional BP Measure in 183 days	1,272	69.2%
At Least 2 Additional BP Measures in 183 days	949	51.6%
At Least 1 Additional BP Measure in 365 days	1,420	77.3%
At Least 2 Additional BP Measures in 365 days	1,167	63.5%
At Least 1 Additional BP Measure in entire history	1,651	89.8%
At Least 2 Additional BP Measures in entire history	1,594	86.7%

Table 1I. Aggregated Baseline Table for Children with Hypertension Claims Definition 1 (at least 1 Inpatient or 2 Outpatient Claims) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
No Additional BP Measures in 183 days	566	30.8%
No Additional BP Measures in 365 days	418	22.7%
No Additional BP Measures in entire history	187	10.2%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	645	35.1%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	491	26.7%
Hypertensive and No Additional Blood Pressure Measures in 183 days	95	5.2%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	687	37.4%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	585	31.8%
Hypertensive and No Additional Blood Pressure Measures in 365 days	53	2.9%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	734	39.9%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	719	39.1%
Hypertensive and No Additional Blood Pressure Measures in entire history	6	0.3%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	1	0.1%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	23	1.3%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	1	0.1%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	0	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	11	0.6%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	369	20.1%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	1,838	100.0%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	1,524	82.9%
3 Outpatient Hypertension Claims	971	52.8%
Hypertension Claims Definition 2: Any Claim	1,838	100.0%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	7	0.4%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	50	2.7%
Hypertensive AND Hypertension Claims Definition 1	740	40.3%
Hypertensive AND NOT Hypertension Claims Definition 1	0	0.0%
Hypertensive AND Hypertension Claims Definition 2	740	40.3%
Hypertensive AND NOT Hypertension Claims Definition 2	0	0.0%
Elevated Blood Pressure AND NOT ANY Claims Definition	0	0.0%
Hypertensive AND NOT ANY Claims Definition	0	0.0%
History of Use of Anti-Hypertension Agents in 183 Days Prior to Hypertension Claim		
Angiotensin Receptor Blockers	10	0.5%
Angiotensin-Converting Enzyme Inhibitors	177	9.6%
Alpha Antagonists	2	0.1%

Table 1I. Aggregated Baseline Table for Children with Hypertension Claims Definition 1 (at least 1 Inpatient or 2 Outpatient Claims) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Hypertension Claim		
Alpha and Beta Adrenergic Blockers	6	0.3%
Beta-Blockers	54	2.9%
Calcium Channel Blockers	16	0.9%
Central Alpha-Agonists	47	2.6%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	3	0.2%
Diuretics	83	4.5%
Thiazide Diuretics	12	0.7%
Potassium-Sparing Diuretics	12	0.7%
Dopamine Receptor Agonists	0	0.0%
Combination Products	1	0.1%
Use of Anti-Hypertension Agents in Enrollment History After Hypertension Claim		
Angiotensin Receptor Blockers	55	3.0%
Angiotensin-Converting Enzyme Inhibitors	491	26.7%
Alpha Antagonists	14	0.8%
Alpha and Beta Adrenergic Blockers	49	2.7%
Beta-Blockers	207	11.3%
Calcium Channel Blockers	85	4.6%
Central Alpha-Agonists	193	10.5%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	32	1.7%
Diuretics	243	13.2%
Thiazide Diuretics	71	3.9%
Potassium-Sparing Diuretics	36	2.0%
Dopamine Receptor Agonists	0	0.0%
Combination Products	38	2.1%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	319	17.4%
BMI - Underweight	31	1.7%
BMI - Normal Weight	237	12.9%
BMI - Overweight	81	4.4%
BMI - Obese	300	16.3%
Obesity Combo	516	28.1%
Type 2 Diabetes Mellitus	31	1.7%
Dyslipidemia	59	3.2%
Chronic Kidney Disease	482	26.2%
Cardiomegaly	76	4.1%
Pyelonephritis	19	1.0%
Vesicoureteral Reflux	42	2.3%
Neurofibromatosis Type 1	14	0.8%
Hyperthyroidism	3	0.2%
Tuberous Sclerosis	5	0.3%
Systemic Lupus Erythematosus	21	1.1%
Cushing Syndrome	11	0.6%
Williams Syndrome	14	0.8%

Table 1I. Aggregated Baseline Table for Children with Hypertension Claims Definition 1 (at least 1 Inpatient or 2 Outpatient Claims) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement		
Turner Syndrome	6	0.3%
Health Service Utilization Intensity	Mean	Standard Deviation
Mean number of unique drug classes	2.9	3.8
Mean number of generics	3.1	4.2
Mean number of filled prescriptions	5.7	9.8
Mean number of ambulatory encounters	7	9.7
Mean number of emergency room encounters	0.6	1.1
Mean number of inpatient hospital encounters	0.9	2.3
Mean number of non-acute institutional encounters	0	0.1
Mean number of other ambulatory encounters	5.6	9.9

Table 1m. Aggregated Baseline Table for Children with Hypertension Claims Definition 2 (Any Valid Claim) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	3,246	
Number of unique patients	3,246	
Demographics		
Mean Age	8.6	3.1
Age (Years)	Number	Percent
3-12	3,246	100.0%
Sex		
Female	1,375	42.4%
Male	1,871	57.6%
Race		
Unknown	880	27.1%
American Indian or Alaska Native	30	0.9%
Asian	492	15.2%
Black or African American	415	12.8%
Native Hawaiian or Other Pacific Islander	108	3.3%
White	1,321	40.7%
Hispanic Origin	789	24.3%
Year		
2006	223	6.9%
2007	304	9.4%
2008	322	9.9%
2009	368	11.3%
2010	425	13.1%
2011	308	9.5%
2012	284	8.7%
2013	265	8.2%
2014	276	8.5%
2015	291	9.0%
2016	180	5.5%
Vital Measurements		
Height	53.5	8.4
Diastolic Blood Pressure	73.5	12
Systolic Blood Pressure	123.2	14.9
Clinical Hypertension Category at Index		
Elevated	106	3.3%
Hypertensive	1,366	42.1%
Normotensive	206	6.3%
Post-Index BP Measures		
At Least 1 Additional BP Measure in 183 days	1,958	60.3%
At Least 2 Additional BP Measures in 183 days	1,289	39.7%
At Least 1 Additional BP Measure in 365 days	2,263	69.7%
At Least 2 Additional BP Measures in 365 days	1,695	52.2%
At Least 1 Additional BP Measure in entire history	2,824	87.0%
At Least 2 Additional BP Measures in entire history	2,658	81.9%

Table 1m. Aggregated Baseline Table for Children with Hypertension Claims Definition 2 (Any Valid Claim) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
No Additional BP Measures in 183 days	1,288	39.7%
No Additional BP Measures in 365 days	983	30.3%
No Additional BP Measures in entire history	422	13.0%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	1,013	31.2%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	668	20.6%
Hypertensive and No Additional Blood Pressure Measures in 183 days	353	10.9%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	1,129	34.8%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	853	26.3%
Hypertensive and No Additional Blood Pressure Measures in 365 days	237	7.3%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	1,328	40.9%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	1,256	38.7%
Hypertensive and No Additional Blood Pressure Measures in entire history	38	1.2%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	2	0.1%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	1	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	33	1.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	2	0.1%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	1	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	0	0.0%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	16	0.5%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	1	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	521	16.1%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	1,831	56.4%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	1,520	46.8%
3 Outpatient Hypertension Claims	967	29.8%
Hypertension Claims Definition 2: Any Claim	3,246	100.0%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	12	0.4%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	94	2.9%
Hypertensive AND Hypertension Claims Definition 1	735	22.6%
Hypertensive AND NOT Hypertension Claims Definition 1	631	19.4%
Hypertensive AND Hypertension Claims Definition 2	1,366	42.1%
Hypertensive AND NOT Hypertension Claims Definition 2	0	0.0%
Elevated Blood Pressure AND NOT ANY Claims Definition	0	0.0%
Hypertensive AND NOT ANY Claims Definition	0	0.0%
History of Use of Anti-Hypertension Agents in 183 Days Prior to Hypertension Claim		
Angiotensin Receptor Blockers	10	0.3%
Angiotensin-Converting Enzyme Inhibitors	194	6.0%
Alpha Antagonists	2	0.1%

Table 1m. Aggregated Baseline Table for Children with Hypertension Claims Definition 2 (Any Valid Claim) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Hypertension Claim		
Alpha and Beta Adrenergic Blockers	7	0.2%
Beta-Blockers	65	2.0%
Calcium Channel Blockers	18	0.6%
Central Alpha-Agonists	78	2.4%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	3	0.1%
Diuretics	93	2.9%
Thiazide Diuretics	18	0.6%
Potassium-Sparing Diuretics	12	0.4%
Dopamine Receptor Agonists	0	0.0%
Combination Products	2	0.1%
Use of Anti-Hypertension Agents in Enrollment History After Hypertension Claim		
Angiotensin Receptor Blockers	61	1.9%
Angiotensin-Converting Enzyme Inhibitors	531	16.4%
Alpha Antagonists	17	0.5%
Alpha and Beta Adrenergic Blockers	49	1.5%
Beta-Blockers	236	7.3%
Calcium Channel Blockers	89	2.7%
Central Alpha-Agonists	253	7.8%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	32	1.0%
Diuretics	282	8.7%
Thiazide Diuretics	82	2.5%
Potassium-Sparing Diuretics	43	1.3%
Dopamine Receptor Agonists	0	0.0%
Combination Products	48	1.5%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	603	18.6%
BMI - Underweight	39	1.2%
BMI - Normal Weight	423	13.0%
BMI - Overweight	158	4.9%
BMI - Obese	584	18.0%
Obesity Combo	1,004	30.9%
Type 2 Diabetes Mellitus	73	2.2%
Dyslipidemia	121	3.7%
Chronic Kidney Disease	549	16.9%
Cardiomegaly	83	2.6%
Pyelonephritis	21	0.6%
Vesicoureteral Reflux	48	1.5%
Neurofibromatosis Type 1	16	0.5%
Hyperthyroidism	4	0.1%
Tuberous Sclerosis	5	0.2%
Systemic Lupus Erythematosus	22	0.7%
Cushing Syndrome	14	0.4%
Williams Syndrome	15	0.5%

Table 1m. Aggregated Baseline Table for Children with Hypertension Claims Definition 2 (Any Valid Claim) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement		
Turner Syndrome	9	0.3%
Health Service Utilization Intensity	Mean	Standard Deviation
Mean number of unique drug classes	2.4	3.3
Mean number of generics	2.5	3.6
Mean number of filled prescriptions	4.4	8.2
Mean number of ambulatory encounters	5.9	9.5
Mean number of emergency room encounters	0.5	1
Mean number of inpatient hospital encounters	0.6	1.8
Mean number of non-acute institutional encounters	0	0.1
Mean number of other ambulatory encounters	4.2	8.2

Table 1n. Aggregated Baseline Table for Teens with Hypertension Claims Definition 1 (at least 1 Inpatient or 2 Outpatient Claims) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	4,371	
Number of unique patients	4,371	
Demographics	Mean	Standard Deviation
Mean Age	15.8	1.4
Age (Years)	Number	Percent
13-17	4,371	100.0%
Sex		
Female	1,546	35.4%
Male	2,825	64.6%
Race		
Unknown	1,141	26.1%
American Indian or Alaska Native	42	1.0%
Asian	528	12.1%
Black or African American	717	16.4%
Native Hawaiian or Other Pacific Islander	123	2.8%
White	1,820	41.6%
Hispanic Origin	984	22.5%
Year		
2006	386	8.8%
2007	460	10.5%
2008	494	11.3%
2009	511	11.7%
2010	453	10.4%
2011	428	9.8%
2012	361	8.3%
2013	321	7.3%
2014	348	8.0%
2015	374	8.6%
2016	235	5.4%
Vital Measurements	Mean	Standard Deviation
Height	66.9	3.9
Diastolic Blood Pressure	78.7	12.5
Systolic Blood Pressure	137.4	14.2
Clinical Hypertension Category at Index	Number	Percent
Elevated	249	5.7%
Hypertensive	1,884	43.1%
Normotensive	262	6.0%
Post-index BP Measures		
At Least 1 Additional BP Measure in 183 days	2,799	64.0%
At Least 2 Additional BP Measures in 183 days	1,935	44.3%
At Least 1 Additional BP Measure in 365 days	3,149	72.0%
At Least 2 Additional BP Measures in 365 days	2,498	57.1%
At Least 1 Additional BP Measure in entire history	3,431	78.5%
At Least 2 Additional BP Measures in entire history	2,994	68.5%

Table 1n. Aggregated Baseline Table for Teens with Hypertension Claims Definition 1 (at least 1 Inpatient or 2 Outpatient Claims) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
No Additional BP Measures in 183 days	1,572	36.0%
No Additional BP Measures in 365 days	1,222	28.0%
No Additional BP Measures in entire history	940	21.5%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	1,494	34.2%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	1,027	23.5%
Hypertensive and No Additional Blood Pressure Measures in 183 days	390	8.9%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	1,619	37.0%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	1,279	29.3%
Hypertensive and No Additional Blood Pressure Measures in 365 days	265	6.1%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	1,700	38.9%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	1,481	33.9%
Hypertensive and No Additional Blood Pressure Measures in entire history	184	4.2%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	10	0.2%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	56	1.3%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	1	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	1	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	4	0.1%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	5	0.1%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	35	0.8%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	1	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	1,011	23.1%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	4,371	100.0%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	3,499	80.1%
3 Outpatient Hypertension Claims	2,507	57.4%
Hypertension Claims Definition 2: Any Claim	4,371	100.0%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	50	1.1%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	199	4.6%
Hypertensive AND Hypertension Claims Definition 1	1,884	43.1%
Hypertensive AND NOT Hypertension Claims Definition 1	0	0.0%
Hypertensive AND Hypertension Claims Definition 2	1,884	43.1%
Hypertensive AND NOT Hypertension Claims Definition 2	0	0.0%
Elevated Blood Pressure AND NOT ANY Claims Definition	0	0.0%
Hypertensive AND NOT ANY Claims Definition	0	0.0%
History of Use of Anti-Hypertension Agents in 183 Days Prior to Hypertension Claim		
Angiotensin Receptor Blockers	31	0.7%
Angiotensin-Converting Enzyme Inhibitors	582	13.3%
Alpha Antagonists	4	0.1%

Table 1n. Aggregated Baseline Table for Teens with Hypertension Claims Definition 1 (at least 1 Inpatient or 2 Outpatient Claims) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Hypertension Claim		
Alpha and Beta Adrenergic Blockers	33	0.8%
Beta-Blockers	168	3.8%
Calcium Channel Blockers	66	1.5%
Central Alpha-Agonists	109	2.5%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	4	0.1%
Diuretics	146	3.3%
Thiazide Diuretics	73	1.7%
Potassium-Sparing Diuretics	29	0.7%
Dopamine Receptor Agonists	0	0.0%
Combination Products	34	0.8%
Use of Anti-Hypertension Agents in Enrollment History After Hypertension Claim		
Angiotensin Receptor Blockers	228	5.2%
Angiotensin-Converting Enzyme Inhibitors	1,409	32.2%
Alpha Antagonists	75	1.7%
Alpha and Beta Adrenergic Blockers	193	4.4%
Beta-Blockers	812	18.6%
Calcium Channel Blockers	252	5.8%
Central Alpha-Agonists	323	7.4%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	54	1.2%
Diuretics	637	14.6%
Thiazide Diuretics	391	8.9%
Potassium-Sparing Diuretics	121	2.8%
Dopamine Receptor Agonists	0	0.0%
Combination Products	259	5.9%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	1,214	27.8%
BMI - Underweight	17	0.4%
BMI - Normal Weight	377	8.6%
BMI - Overweight	187	4.3%
BMI - Obese	845	19.3%
Obesity Combo	1,670	38.2%
Type 2 Diabetes Mellitus	205	4.7%
Dyslipidemia	280	6.4%
Chronic Kidney Disease	522	11.9%
Cardiomegaly	113	2.6%
Pyelonephritis	25	0.6%
Vesicoureteral Reflux	32	0.7%
Neurofibromatosis Type 1	8	0.2%
Hyperthyroidism	21	0.5%
Tuberous Sclerosis	4	0.1%
Systemic Lupus Erythematosus	70	1.6%
Cushing Syndrome	9	0.2%
Williams Syndrome	2	0.0%

Table 1n. Aggregated Baseline Table for Teens with Hypertension Claims Definition 1 (at least 1 Inpatient or 2 Outpatient Claims) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement		
Turner Syndrome	12	0.3%
Health Service Utilization Intensity		
	Mean	Standard Deviation
Mean number of unique drug classes	2.5	3.2
Mean number of generics	2.7	3.5
Mean number of filled prescriptions	4.6	7.9
Mean number of ambulatory encounters	5.9	8
Mean number of emergency room encounters	0.5	1
Mean number of inpatient hospital encounters	0.6	2
Mean number of non-acute institutional encounters	0	0.1
Mean number of other ambulatory encounters	3.6	5.8

Table 1o. Aggregated Baseline Table for Teens with Hypertension Claims Definition 2 (Any Valid Claim) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Characteristic	Number	Percent
Number of episodes	7,293	
Number of unique patients	7,293	
Demographics		
Mean Age	15.8	1.4
Age (Years)	Number	Percent
13-17	7,293	100.0%
Sex		
Female	2,508	34.4%
Male	4,785	65.6%
Race		
Unknown	2,081	28.5%
American Indian or Alaska Native	71	1.0%
Asian	850	11.7%
Black or African American	1,131	15.5%
Native Hawaiian or Other Pacific Islander	217	3.0%
White	2,943	40.4%
Hispanic Origin	1,627	22.3%
Year		
2006	633	8.7%
2007	793	10.9%
2008	826	11.3%
2009	823	11.3%
2010	777	10.7%
2011	716	9.8%
2012	614	8.4%
2013	533	7.3%
2014	585	8.0%
2015	599	8.2%
2016	394	5.4%
Vital Measurements		
Height	66.9	3.8
Diastolic Blood Pressure	77.6	11.9
Systolic Blood Pressure	136.7	13.5
Clinical Hypertension Category at Index		
Elevated	428	5.9%
Hypertensive	3,256	44.6%
Normotensive	378	5.2%
Post-Index BP Measures		
At Least 1 Additional BP Measure in 183 days	4,097	56.2%
At Least 2 Additional BP Measures in 183 days	2,585	35.4%
At Least 1 Additional BP Measure in 365 days	4,702	64.5%
At Least 2 Additional BP Measures in 365 days	3,440	47.2%
At Least 1 Additional BP Measure in entire history	5,322	73.0%
At Least 2 Additional BP Measures in entire history	4,432	60.8%

Table 1o. Aggregated Baseline Table for Teens with Hypertension Claims Definition 2 (Any Valid Claim) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Post-Index BP Measures		
No Additional BP Measures in 183 days	3,196	43.8%
No Additional BP Measures in 365 days	2,591	35.5%
No Additional BP Measures in entire history	1,971	27.0%
Post-Index BP Measures, among Hypertensive at Index Members		
Hypertensive and at least 1 Additional Blood Pressure Measure in 183 days	2,258	31.0%
Hypertensive and at least 2 Additional Blood Pressure Measures in 183 days	1,379	18.9%
Hypertensive and No Additional Blood Pressure Measures in 183 days	998	13.7%
Hypertensive and at least 1 Additional Blood Pressure Measure in 365 days	2,506	34.4%
Hypertensive and at least 2 Additional Blood Pressure Measures in 365 days	1,785	24.5%
Hypertensive and No Additional Blood Pressure Measures in 365 days	750	10.3%
Hypertensive and at least 1 Additional Blood Pressure Measure in entire history	2,728	37.4%
Hypertensive and at least 2 Additional Blood Pressure Measures in entire history	2,221	30.5%
Hypertensive and No Additional Blood Pressure Measures in entire history	528	7.2%
Blood Pressure Claims Codes		
Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	17	0.2%
Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	73	1.0%
Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	1	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	2	0.0%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Elevated Blood Pressure and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	6	0.1%
Elevated Blood Pressure and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Pre-Index)	7	0.1%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Pre-Index)	0	0.0%
Hypertensive and Normal Blood Pressure Exam Claim (Z01.30) (Post-Index)	44	0.6%
Hypertensive and Abnormal Blood Pressure Exam Claim (Z01.31) (Post-Index)	1	0.0%
Claims Definitions in 36 Months After Index		
Elevated BP Claim	1,461	20.0%
Hypertension Claims Definition 1: 1 Inpatient or 2 Outpatient Claims	4,361	59.8%
Hypertension Claims Definition 1, version 2: 1 Inpatient or 3 Outpatient Claims	3,494	47.9%
3 Outpatient Hypertension Claims	2,494	34.2%
Hypertension Claims Definition 2: Any Claim	7,293	100.0%
Claims and Clinical Hypertension Cross-Tabulations		
Elevated Blood Pressure AND Elevated Blood Pressure Claim	78	1.1%
Elevated Blood Pressure AND NOT Elevated Blood Pressure Claim	350	4.8%
Hypertensive AND Hypertension Claims Definition 1	1,882	25.8%
Hypertensive AND NOT Hypertension Claims Definition 1	1,374	18.8%
Hypertensive AND Hypertension Claims Definition 2	3,256	44.6%
Hypertensive AND NOT Hypertension Claims Definition 2	0	0.0%
Elevated Blood Pressure AND NOT ANY Claims Definition	0	0.0%
Hypertensive AND NOT ANY Claims Definition	0	0.0%
History of Use of Anti-Hypertension Agents in 183 Days Prior to Hypertension Claim		
Angiotensin Receptor Blockers	34	0.5%
Angiotensin-Converting Enzyme Inhibitors	651	8.9%
Alpha Antagonists	7	0.1%

Table 1o. Aggregated Baseline Table for Teens with Hypertension Claims Definition 2 (Any Valid Claim) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

History of Use of Anti-Hypertension Agents in 183 Days Prior to Hypertension Claim		
Alpha and Beta Adrenergic Blockers	40	0.5%
Beta-Blockers	211	2.9%
Calcium Channel Blockers	78	1.1%
Central Alpha-Agonists	153	2.1%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	5	0.1%
Diuretics	166	2.3%
Thiazide Diuretics	82	1.1%
Potassium-Sparing Diuretics	34	0.5%
Dopamine Receptor Agonists	0	0.0%
Combination Products	36	0.5%
Use of Anti-Hypertension Agents in Enrollment History After Hypertension Claim		
Angiotensin Receptor Blockers	255	3.5%
Angiotensin-Converting Enzyme Inhibitors	1,553	21.3%
Alpha Antagonists	99	1.4%
Alpha and Beta Adrenergic Blockers	212	2.9%
Beta-Blockers	981	13.5%
Calcium Channel Blockers	280	3.8%
Central Alpha-Agonists	401	5.5%
Direct Renin Inhibitors	0	0.0%
Direct Vasodilators	61	0.8%
Diuretics	739	10.1%
Thiazide Diuretics	444	6.1%
Potassium-Sparing Diuretics	155	2.1%
Dopamine Receptor Agonists	0	0.0%
Combination Products	291	4.0%
Recorded history of in 183 Days Prior to Hypertension Measurement		
Obesity	1,839	25.2%
BMI - Underweight	26	0.4%
BMI - Normal Weight	654	9.0%
BMI - Overweight	338	4.6%
BMI - Obese	1,408	19.3%
Obesity Combo	2,681	36.8%
Type 2 Diabetes Mellitus	291	4.0%
Dyslipidemia	416	5.7%
Chronic Kidney Disease	592	8.1%
Cardiomegaly	125	1.7%
Pyelonephritis	27	0.4%
Vesicoureteral Reflux	38	0.5%
Neurofibromatosis Type 1	10	0.1%
Hyperthyroidism	30	0.4%
Tuberous Sclerosis	4	0.1%
Systemic Lupus Erythematosus	76	1.0%
Cushing Syndrome	11	0.2%
Williams Syndrome	2	0.0%

Table 1o. Aggregated Baseline Table for Teens with Hypertension Claims Definition 2 (Any Valid Claim) in the Sentinel Distributed Database (SDD) between July 1, 2006 and July 31, 2016

Recorded history of in 183 Days Prior to Hypertension Measurement		
Turner Syndrome	13	0.2%
Health Service Utilization Intensity	Mean	Standard Deviation
Mean number of unique drug classes	2.1	2.8
Mean number of generics	2.3	3.1
Mean number of filled prescriptions	3.8	6.7
Mean number of ambulatory encounters	5	6.9
Mean number of emergency room encounters	0.4	0.9
Mean number of inpatient hospital encounters	0.3	1.6
Mean number of non-acute institutional encounters	0	0.1
Mean number of other ambulatory encounters	3	5.1

Table 2. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016

Cohort	New Users	New Episodes
Elevated or Hypertensive BP	1,061,047	1,061,047
Normotensive BP	571,448	571,448
Always Elevated or Hypertensive BP	374,994	374,994
Normotensive with no prior High BP	1,152,105	1,152,105
Any valid BP measure	1,785,127	9,905,304
Children with 3 BP Measures	781,772	781,772
Children with 3 Hypertensive BP Measures	70,315	70,315
Teens with 3 BP Measures	551,246	551,246
Teens with 3 Hypertensive BP Measures	47,928	47,928
Children with 3 Elevated BP Measures	22,465	22,465
Teens with 3 Elevated BP Measures	60,952	60,952
Children with Hypertension Claims Definition 1	1,838	1,838
Children with Hypertension Claims Definition 2	3,246	3,246
Teens with Hypertension Claims Definition 1	4,371	4,371
Teens with Hypertension Claims Definition 2	7,293	7,293

Table 3. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Year

Year	New Users	New Episodes
Elevated or Hypertensive BP		
2006	59,951	59,951
2007	122,592	122,592
2008	119,306	119,306
2009	113,751	113,751
2010	110,411	110,411
2011	109,258	109,258
2012	99,100	99,100
2013	93,147	93,147
2014	88,411	88,411
2015	91,062	91,062
2016	54,058	54,058
Normotensive BP		
2006	52,932	52,932
2007	84,020	84,020
2008	66,465	66,465
2009	54,117	54,117
2010	56,794	56,794
2011	52,052	52,052
2012	44,551	44,551
2013	41,355	41,355
2014	43,034	43,034
2015	47,158	47,158
2016	28,970	28,970
Always Elevated or Hypertensive BP		
2006	18,659	18,659
2007	36,583	36,583
2008	35,971	35,971
2009	34,807	34,807
2010	35,353	35,353
2011	38,443	38,443
2012	35,685	35,685
2013	35,878	35,878
2014	35,994	35,994
2015	41,223	41,223
2016	26,398	26,398
Normotensive with no prior High BP		
2006	114,356	114,356
2007	183,237	183,237
2008	145,159	145,159
2009	116,884	116,884
2010	116,504	116,504
2011	102,947	102,947
2012	87,512	87,512
2013	79,056	79,056

Table 3. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Year

Year	New Users	New Episodes
Normotensive with no prior High BP		
2014	78,367	78,367
2015	80,916	80,916
2016	47,167	47,167
Any valid BP measure		
2006	175,836	245,678
2007	369,434	627,369
2008	432,350	768,259
2009	476,252	887,171
2010	533,333	991,029
2011	574,499	1,072,906
2012	580,620	1,112,375
2013	590,806	1,131,675
2014	599,405	1,154,060
2015	624,672	1,205,989
2016	442,886	708,793
Children with 3 BP Measures		
2006	62,619	62,619
2007	100,477	100,477
2008	84,909	84,909
2009	76,453	76,453
2010	79,207	79,207
2011	72,406	72,406
2012	68,213	68,213
2013	63,905	63,905
2014	64,984	64,984
2015	68,030	68,030
2016	40,569	40,569
Children with 3 Hypertensive BP Measures		
2006	5,481	5,481
2007	9,207	9,207
2008	7,515	7,515
2009	7,286	7,286
2010	7,230	7,230
2011	6,550	6,550
2012	6,163	6,163
2013	5,728	5,728
2014	5,576	5,576
2015	5,958	5,958
2016	3,621	3,621
Teens with 3 BP Measures		
2006	41,460	41,460
2007	57,880	57,880
2008	50,909	50,909
2009	51,108	51,108

Table 3. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Year

Year	New Users	New Episodes
Teens with 3 BP Measures		
2010	55,534	55,534
2011	54,348	54,348
2012	51,164	51,164
2013	51,237	51,237
2014	53,178	53,178
2015	53,666	53,666
2016	30,762	30,762
Teens with 3 Hypertensive BP Measures		
2006	4,721	4,721
2007	6,195	6,195
2008	4,891	4,891
2009	4,512	4,512
2010	4,938	4,938
2011	4,549	4,549
2012	4,051	4,051
2013	4,014	4,014
2014	3,958	3,958
2015	3,886	3,886
2016	2,213	2,213
Children with 3 Elevated BP Measures		
2006	1,972	1,972
2007	2,944	2,944
2008	2,495	2,495
2009	2,369	2,369
2010	2,198	2,198
2011	1,994	1,994
2012	1,820	1,820
2013	1,750	1,750
2014	1,857	1,857
2015	1,968	1,968
2016	1,098	1,098
Teens with 3 Elevated BP Measures		
2006	3,979	3,979
2007	5,833	5,833
2008	5,520	5,520
2009	5,504	5,504
2010	5,931	5,931
2011	6,146	6,146
2012	5,869	5,869
2013	5,944	5,944
2014	6,237	6,237
2015	6,323	6,323
2016	3,666	3,666

Table 3. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Year

Year	New Users	New Episodes
Children with Hypertension Claims Definition 1		
2006	144	144
2007	184	184
2008	184	184
2009	204	204
2010	233	233
2011	179	179
2012	166	166
2013	142	142
2014	169	169
2015	144	144
2016	89	89
Children with Hypertension Claims Definition 2		
2006	223	223
2007	304	304
2008	322	322
2009	368	368
2010	425	425
2011	308	308
2012	284	284
2013	265	265
2014	276	276
2015	291	291
2016	180	180
Teens with Hypertension Claims Definition 1		
2006	386	386
2007	460	460
2008	494	494
2009	511	511
2010	453	453
2011	428	428
2012	361	361
2013	321	321
2014	348	348
2015	374	374
2016	235	235
Teens with Hypertension Claims Definition 2		
2006	633	633
2007	793	793
2008	826	826
2009	823	823
2010	777	777
2011	716	716
2012	614	614
2013	533	533

Table 3. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Year

Year	New Users	New Episodes
Teens with Hypertension Claims Definition 2		
2014	585	585
2015	599	599
2016	394	394

Table 4. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Sex

Sex	New Users	New Episodes
Elevated or Hypertensive BP		
Female	476,235	476,235
Male	584,812	584,812
Normotensive BP		
Female	330,255	330,255
Male	241,193	241,193
Always Elevated or Hypertensive BP		
Female	143,525	143,525
Male	231,469	231,469
Normotensive with no prior High BP		
Female	614,275	614,275
Male	537,830	537,830
Any valid BP measure		
Female	883,633	4,993,083
Male	901,494	4,912,221
Children with 3 BP Measures		
Female	373,763	373,763
Male	408,009	408,009
Children with 3 Hypertensive BP Measures		
Female	27,332	27,332
Male	42,983	42,983
Teens with 3 BP Measures		
Female	286,955	286,955
Male	264,291	264,291
Teens with 3 Hypertensive BP Measures		
Female	18,497	18,497
Male	29,431	29,431
Children with 3 Elevated BP Measures		
Female	9,202	9,202
Male	13,263	13,263
Teens with 3 Elevated BP Measures		
Female	24,747	24,747
Male	36,205	36,205
Children with Hypertension Claims Definition 1		
Female	748	748
Male	1,090	1,090
Children with Hypertension Claims Definition 2		
Female	1,375	1,375
Male	1,871	1,871
Teens with Hypertension Claims Definition 1		
Female	1,546	1,546
Male	2,825	2,825
Teens with Hypertension Claims Definition 2		
Female	2,508	2,508
Male	4,785	4,785

Table 5. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Age Group

Age Group	New Users	New Episodes
Elevated or Hypertensive BP		
3-5	326,459	326,459
6-12	348,359	348,359
13-17	386,229	386,229
Normotensive BP		
3-5	181,269	181,269
6-12	195,551	195,551
13-17	194,628	194,628
Always Elevated or Hypertensive BP		
3-5	44,743	44,743
6-12	74,587	74,587
13-17	255,664	255,664
Normotensive with no prior High BP		
3-5	415,491	415,491
6-12	423,843	423,843
13-17	312,771	312,771
Any valid BP measure		
3-5	650,260	1,860,610
6-12	978,711	3,868,591
13-17	893,151	4,176,103
Children with 3 BP Measures		
3-12	781,772	781,772
Children with 3 Hypertensive BP Measures		
3-12	70,315	70,315
Teens with 3 BP Measures		
13-17	551,246	551,246
Teens with 3 Hypertensive BP Measures		
13-17	47,928	47,928
Children with 3 Elevated BP Measures		
3-12	22,465	22,465
Teens with 3 Elevated BP Measures		
13-17	60,952	60,952
Children with Hypertension Claims Definition 1		
3-12	1,838	1,838
Children with Hypertension Claims Definition 2		
3-12	3,246	3,246
Teens with Hypertension Claims Definition 1		
13-17	4,371	4,371
Teens with Hypertension Claims Definition 2		
13-17	7,293	7,293

Table 6. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Race

Race	New Users	New Episodes
Elevated or Hypertensive BP		
American Indian or Alaska Native	8,989	8,989
Asian	157,133	157,133
Black or African American	123,913	123,913
Native Hawaiian or Other Pacific Islander	31,280	31,280
Unknown	267,361	267,361
White	472,371	472,371
Normotensive BP		
American Indian or Alaska Native	4,506	4,506
Asian	84,721	84,721
Black or African American	51,079	51,079
Native Hawaiian or Other Pacific Islander	14,510	14,510
Unknown	172,838	172,838
White	243,794	243,794
Always Elevated or Hypertensive BP		
American Indian or Alaska Native	2,972	2,972
Asian	49,830	49,830
Black or African American	42,168	42,168
Native Hawaiian or Other Pacific Islander	9,185	9,185
Unknown	108,273	108,273
White	162,566	162,566
Normotensive with no prior High BP		
American Indian or Alaska Native	9,554	9,554
Asian	167,400	167,400
Black or African American	119,828	119,828
Native Hawaiian or Other Pacific Islander	32,705	32,705
Unknown	303,336	303,336
White	519,282	519,282
Any valid BP measure		
American Indian or Alaska Native	14,746	93,180
Asian	265,756	1,283,472
Black or African American	191,684	1,184,194
Native Hawaiian or Other Pacific Islander	50,212	298,506
Unknown	479,880	2,196,488
White	782,849	4,849,464
Children with 3 BP Measures		
American Indian or Alaska Native	6,912	6,912
Asian	120,504	120,504
Black or African American	90,003	90,003
Native Hawaiian or Other Pacific Islander	25,301	25,301
Unknown	182,977	182,977
White	356,075	356,075
Children with 3 Hypertensive BP Measures		
American Indian or Alaska Native	697	697
Asian	11,106	11,106

Table 6. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Race

Race	New Users	New Episodes
Black or African American	9,700	9,700
Children with 3 Hypertensive BP Measures		
Native Hawaiian or Other Pacific Islander	2,113	2,113
Unknown	17,440	17,440
White	29,259	29,259
Teens with 3 BP Measures		
American Indian or Alaska Native	5,103	5,103
Asian	67,635	67,635
Black or African American	68,835	68,835
Native Hawaiian or Other Pacific Islander	16,610	16,610
Unknown	124,351	124,351
White	268,712	268,712
Teens with 3 Hypertensive BP Measures		
American Indian or Alaska Native	509	509
Asian	4,274	4,274
Black or African American	6,768	6,768
Native Hawaiian or Other Pacific Islander	1,499	1,499
Unknown	10,027	10,027
White	24,851	24,851
Children with 3 Elevated BP Measures		
American Indian or Alaska Native	215	215
Asian	2,823	2,823
Black or African American	3,055	3,055
Native Hawaiian or Other Pacific Islander	567	567
Unknown	5,476	5,476
White	10,329	10,329
Teens with 3 Elevated BP Measures		
American Indian or Alaska Native	621	621
Asian	5,878	5,878
Black or African American	8,634	8,634
Native Hawaiian or Other Pacific Islander	1,650	1,650
Unknown	13,549	13,549
White	30,620	30,620
Children with Hypertension Claims Definition 1		
American Indian or Alaska Native	15	15
Asian	299	299
Black or African American	255	255
Native Hawaiian or Other Pacific Islander	62	62
Unknown	431	431
White	776	776
Children with Hypertension Claims Definition 2		
American Indian or Alaska Native	30	30
Asian	492	492
Black or African American	415	415
Native Hawaiian or Other Pacific Islander	108	108

Table 6. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Race

Race	New Users	New Episodes
Unknown	880	880
White	1,321	1,321
Teens with Hypertension Claims Definition 1		
American Indian or Alaska Native	42	42
Asian	528	528
Black or African American	717	717
Native Hawaiian or Other Pacific Islander	123	123
Unknown	1,141	1,141
White	1,820	1,820
Teens with Hypertension Claims Definition 2		
American Indian or Alaska Native	71	71
Asian	850	850
Black or African American	1,131	1,131
Native Hawaiian or Other Pacific Islander	217	217
Unknown	2,081	2,081
White	2,943	2,943

Table 7. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Hispanic Origin

Hispanic	New Users	New Episodes
Elevated or Hypertensive BP		
Hispanic Origin	251,250	251,250
Not Hispanic Origin	230,528	230,528
Unknown	579,269	579,269
Normotensive BP		
Hispanic Origin	111,315	111,315
Not Hispanic Origin	153,495	153,495
Unknown	306,638	306,638
Always Elevated or Hypertensive BP		
Hispanic Origin	86,063	86,063
Not Hispanic Origin	63,796	63,796
Unknown	225,135	225,135
Normotensive with no prior High BP		
Hispanic Origin	244,322	244,322
Not Hispanic Origin	305,572	305,572
Unknown	602,211	602,211
Any valid BP measure		
Hispanic Origin	398,657	2,292,937
Not Hispanic Origin	423,088	2,916,138
Unknown	963,382	4,696,229
Children with 3 BP Measures		
Hispanic Origin	181,109	181,109
Not Hispanic Origin	227,756	227,756
Unknown	372,907	372,907
Children with 3 Hypertensive BP Measures		
Hispanic Origin	20,238	20,238
Not Hispanic Origin	14,607	14,607
Unknown	35,470	35,470
Teens with 3 BP Measures		
Hispanic Origin	124,666	124,666
Not Hispanic Origin	155,613	155,613
Unknown	270,967	270,967
Teens with 3 Hypertensive BP Measures		
Hispanic Origin	11,614	11,614
Not Hispanic Origin	12,319	12,319
Unknown	23,995	23,995
Children with 3 Elevated BP Measures		
Hispanic Origin	5,805	5,805
Not Hispanic Origin	5,834	5,834
Unknown	10,826	10,826
Teens with 3 Elevated BP Measures		
Hispanic Origin	15,049	15,049
Not Hispanic Origin	13,514	13,514
Unknown	32,389	32,389
Children with Hypertension Claims Definition 1		

Table 7. Summary of Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016, by Hispanic Origin

Hispanic	New Users	New Episodes
Hispanic Origin	439	439
Children with Hypertension Claims Definition 1		
Not Hispanic Origin	456	456
Unknown	943	943
Children with Hypertension Claims Definition 2		
Hispanic Origin	789	789
Not Hispanic Origin	785	785
Unknown	1,672	1,672
Teens with Hypertension Claims Definition 1		
Hispanic Origin	984	984
Not Hispanic Origin	1,014	1,014
Unknown	2,373	2,373
Teens with Hypertension Claims Definition 2		
Hispanic Origin	1,627	1,627
Not Hispanic Origin	1,714	1,714
Unknown	3,952	3,952

Table 8a. Summary of Time to Censor for Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016 ¹

Cohort	Number of Episodes by Length of Follow-Up Time										
	0-183 days			184-364 days		365-729 days		730-1,094 days		1,095+ days	
	Total Number of Episodes	Number of Episodes	Percent of Total Episodes	Number of Episodes	Percent of Total Episodes	Number of Episodes	Percent of Total Episodes	Number of Episodes	Percent of Total Episodes	Number of Episodes	Percent of Total Episodes
Elevated or Hypertensive BP	1,061,047	69,239	6.5%	58,004	5.5%	103,233	9.7%	80,240	7.6%	750,331	70.7%
Normotensive BP	571,448	69,061	12.1%	50,068	8.8%	78,974	13.8%	52,020	9.1%	321,325	56.2%
Always Elevated or Hypertensive BP	374,994	51,716	13.8%	34,146	9.1%	50,538	13.5%	30,694	8.2%	207,900	55.4%
Normotensive with no prior High BP	1,152,105	90,703	7.9%	70,150	6.1%	120,152	10.4%	89,547	7.8%	781,553	67.8%
Any valid BP measure	9,905,304	555,239	5.6%	480,872	4.9%	863,135	8.7%	692,133	7.0%	7,313,925	73.8%
Children with 3 BP Measures	781,772	28,096	3.6%	27,165	3.5%	60,876	7.8%	59,483	7.6%	606,152	77.5%
Children with 3 Hypertensive BP Measures	70,315	2,258	3.2%	2,237	3.2%	4,830	6.9%	5,124	7.3%	55,866	79.5%
Teens with 3 BP Measures	551,246	16,648	3.0%	18,034	3.3%	42,112	7.6%	41,310	7.5%	433,142	78.6%
Teens with 3 Hypertensive BP Measures	47,928	1,302	2.7%	1,389	2.9%	3,404	7.1%	3,788	7.9%	38,045	79.4%
Children with 3 Elevated BP Measures	22,465	656	2.9%	606	2.7%	1,297	5.8%	1,563	7.0%	18,343	81.7%
Teens with 3 Elevated BP Measures	60,952	1,450	2.4%	1,450	2.4%	3,552	5.8%	4,137	6.8%	50,363	82.6%
Children with Hypertension Claims Definition 1	1,838	137	7.5%	84	4.6%	165	9.0%	118	6.4%	1,334	72.6%
Children with Hypertension Claims Definition 2	3,246	251	7.7%	172	5.3%	297	9.1%	221	6.8%	2,305	71.0%
Teens with Hypertension Claims Definition 1	4,371	257	5.9%	217	5.0%	472	10.8%	407	9.3%	3,018	69.0%
Teens with Hypertension Claims Definition 2	7,293	503	6.9%	400	5.5%	819	11.2%	648	8.9%	4,923	67.5%

Table 8a. Summary of Time to Censor for Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016 ¹

Distribution of Length of Follow-up Time in Days, by Episode							
	Minimum	Q1	Median	Q3	Maximum	Mean	Standard Deviation
Elevated or Hypertensive BP	1	876	1,804	3,012	4,779	1,974	1,298
Normotensive BP	1	459	1,286	2,602	4,779	1,630	1,340
Always Elevated or Hypertensive BP	1	411	1,242	2,312	4,779	1,475	1,196
Normotensive with no prior High BP	1	756	1,794	3,229	4,779	2,022	1,416
Any valid BP measure	1	1,028	1,748	2,709	4,779	1,879	1,155
Children with 3 BP Measures	1	1,163	2,017	3,284	4,779	2,211	1,328
Children with 3 Hypertensive BP Measures	1	1,212	2,078	3,306	4,779	2,248	1,308
Teens with 3 BP Measures	1	1,179	1,895	2,978	4,779	2,072	1,184
Teens with 3 Hypertensive BP Measures	1	1,208	1,952	3,085	4,779	2,129	1,201
Children with 3 Elevated BP Measures	1	1,272	2,132	3,383	4,779	2,311	1,305
Teens with 3 Elevated BP Measures	1	1,269	1,948	2,975	4,779	2,126	1,142
Children with Hypertension Claims Definition 1	1	938	1,916	3,150	4,775	2,055	1,336
Children with Hypertension Claims Definition 2	1	866	1,827	3,037	4,775	1,974	1,316
Teens with Hypertension Claims Definition 1	1	843	1,637	2,906	4,779	1,869	1,231
Teens with Hypertension Claims Definition 2	1	780	1,609	2,871	4,779	1,831	1,234

Table 8b. Summary of Reasons for Censoring using Time to Censor Members with Clinical Blood Pressure (BP) Measurements or Hypertension Claims in the Sentinel Distributed Database between July 1, 2006 and July 31, 2016^{1,2}

Cohort	Disenrollment			Death		Data Partner End Date		Query End Date	
	Total Number of Episodes	Number of Episodes	Percent Total Episodes	Number of Episodes	Percent Total Episodes	Number of Episodes	Percent Total Episodes	Number of Episodes	Percent Total Episodes
Elevated or Hypertensive BP	1,061,047	901,953	85.0%	1,603	0.2%	332,779	31.4%	491,086	46.3%
Normotensive BP	571,448	506,752	88.7%	584	0.1%	115,835	20.3%	180,342	31.6%
Always Elevated or Hypertensive BP	374,994	347,958	92.8%	829	0.2%	97,168	25.9%	123,645	33.0%
Normotensive with no prior High BP	1,152,105	971,927	84.4%	1,307	0.1%	302,711	26.3%	482,522	41.9%
Any valid BP measure	9,905,304	7,557,346	76.3%	34,560	0.3%	2,934,983	29.6%	5,258,420	53.1%
Children with 3 BP Measures	781,772	605,865	77.5%	685	0.1%	247,190	31.6%	422,988	54.1%
Children with 3 Hypertensive BP Measures	70,315	56,280	80.0%	171	0.2%	24,962	35.5%	38,867	55.3%
Teens with 3 BP Measures	551,246	442,704	80.3%	1,257	0.2%	157,422	28.6%	265,411	48.1%
Teens with 3 Hypertensive BP Measures	47,928	40,069	83.6%	230	0.5%	13,687	28.6%	21,384	44.6%
Children with 3 Elevated BP Measures	22,465	16,872	75.1%	28	0.1%	6,960	31.0%	12,548	55.9%
Teens with 3 Elevated BP Measures	60,952	49,370	81.0%	149	0.2%	20,360	33.4%	31,879	52.3%
Children with Hypertension Claims Definition 1	1,838	1,406	76.5%	81	4.4%	600	32.6%	954	51.9%
Children with Hypertension Claims Definition 2	3,246	2,526	77.8%	88	2.7%	999	30.8%	1,634	50.3%
Teens with Hypertension Claims Definition 1	4,371	3,654	83.6%	83	1.9%	1,001	22.9%	1,640	37.5%
Teens with Hypertension Claims Definition 2	7,293	6,160	84.5%	94	1.3%	1,599	21.9%	2,645	36.3%

¹An episode may be censored due to more than one reason if they occur on the same date. Therefore, the sum of the reasons for censoring may be greater than the total number of episodes

²Time to censor is for characterization purposes only. It does not represent at-risk time and does not take into account episode end date, outcome occurrence, or blackout period when calculating time to censor

Table 9. Frequency of Implausible Blood Pressure Measurements among all Clinical Blood Pressure Measurements in the Sentinel Distributed Database, by Metric that Caused Implausible Value

Implausible Systolic Value	Implausible Diastolic Value	Systolic Value Less than or Equal to Diastolic Value	Implausible Values for Algorithm	Implausible Height Value	Same Day BP with no Same Day Height Measurement*	Number	Percent
0	0	0	0	0	1	5,859,365	31.00%
0	0	0	0	1	0	161,713	0.86%
0	0	1	0	0	0	91	0.00%
0	0	1	0	1	0	1	0.00%
0	1	0	0	0	0	1,495	0.01%
0	1	0	0	1	0	30	0.00%
1	0	0	0	0	0	8	0.00%
1	1	0	0	0	0	3	0.00%
1	1	1	0	0	0	3	0.00%

*Blood pressure values with no same day height measurements were not excluded from the cohorts as long as a valid height measurement occurred with six months of diastolic and systolic measurement. This scenario is included here for data characterization purposes.

Appendix A. Dates of Available Data for Each Data Partner (DP) as of Request Distribution Date (September 24, 2021)

Masked ID	DP Start Date*	DP End Date*
DP01	01/01/2000	02/28/2021
DP02	01/01/2005	10/31/2020
DP03	01/01/2004	08/31/2019
DP04	01/01/2000	04/30/2021
DP05	01/01/2000	06/30/2020
DP06	01/01/2000	07/31/2019
DP07	01/01/2000	05/31/2021

*The start and end dates are based on the minimum and maximum dates within each DP. The month with the maximum date must have at least 80% of the number of records in the previous month.

Appendix B. American Academy of Pediatrics (AAP) Guidelines for Pediatric Hypertension Classification

AAP 2017 for Children 1-13 y		AAP 2017 for Children ≥13 y	
Classification	SBP/DBP Percentile	Classification	Absolute Threshold
Normal	<90th	Normal	<120/<80 mm Hg
Elevated BP	≥90th to <95th Or 120/80 mm Hg to <95th (whichever is lower)	Elevated BP	120/<80 to 129/<80 mm Hg
Stage 1 hypertension	≥95th to <95th Plus 12 mm Hg or 130/80-139/89 mm Hg (whichever is lower)	Stage 1 hypertension	130/80 to 139/89 mm Hg
Stage 2 hypertension	≥95th Plus 12 mm Hg or ≥140/90 mm Hg (whichever is lower)	Stage 2 hypertension	≥140/≥90 mm Hg

*Note: In this request, Stage 1 hypertension and Stage 2 hypertension were grouped together under "Hypertension"

**Please see the following reference for look-up tables defining the systolic blood pressure (SBP)/diastolic blood pressure (DBP) percentiles for each height percentile and gender: Flynn JT, Kaelber DC, Baker-Smith CM, et al. Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents. *Pediatrics*.2017;140(3):e20171904

***Height percentiles are based on Centers for Disease Control and Prevention (CDC) guidelines: Centers for Disease Control and Prevention, National Center for Health Statistics. 2000 CDC growth charts: United States. Available at: www.cdc.gov/growthcharts. Accessed August 19, 2020

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Claims-Based Exposures in this Request

Code	Description	Code Category	Code Type
Hypertension			
401	Essential hypertension	Diagnosis	ICD-9-CM
401.0	Essential hypertension, malignant	Diagnosis	ICD-9-CM
401.1	Essential hypertension, benign	Diagnosis	ICD-9-CM
401.9	Unspecified essential hypertension	Diagnosis	ICD-9-CM
402	Hypertensive heart disease	Diagnosis	ICD-9-CM
402.0	Malignant hypertensive heart disease	Diagnosis	ICD-9-CM
402.00	Malignant hypertensive heart disease without heart failure	Diagnosis	ICD-9-CM
402.01	Malignant hypertensive heart disease with heart failure	Diagnosis	ICD-9-CM
402.1	Benign hypertensive heart disease	Diagnosis	ICD-9-CM
402.10	Benign hypertensive heart disease without heart failure	Diagnosis	ICD-9-CM
402.11	Benign hypertensive heart disease with heart failure	Diagnosis	ICD-9-CM
402.9	Unspecified hypertensive heart disease	Diagnosis	ICD-9-CM
402.90	Unspecified hypertensive heart disease without heart failure	Diagnosis	ICD-9-CM
402.91	Hypertensive heart disease, unspecified, with heart failure	Diagnosis	ICD-9-CM
403	Hypertensive chronic kidney disease	Diagnosis	ICD-9-CM
403.0	Hypertensive chronic kidney disease, malignant	Diagnosis	ICD-9-CM
403.00	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
403.01	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
403.1	Hypertensive chronic kidney disease, benign	Diagnosis	ICD-9-CM
403.10	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
403.11	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
403.9	Hypertensive chronic kidney disease, unspecified	Diagnosis	ICD-9-CM
403.90	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
403.91	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404	Hypertensive heart and chronic kidney disease	Diagnosis	ICD-9-CM
404.0	Hypertensive heart and chronic kidney disease, malignant	Diagnosis	ICD-9-CM
404.00	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.01	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.02	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.03	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.1	Hypertensive heart and chronic kidney disease, benign	Diagnosis	ICD-9-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Claims-Based Exposures in this Request

Code	Description	Code Category	Code Type
404.10	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.11	Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.12	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.13	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.9	Hypertensive heart and chronic kidney disease, unspecified	Diagnosis	ICD-9-CM
404.90	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.91	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.92	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.93	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
405	Secondary hypertension	Diagnosis	ICD-9-CM
405.0	Secondary hypertension, malignant	Diagnosis	ICD-9-CM
405.01	Secondary renovascular hypertension, malignant	Diagnosis	ICD-9-CM
405.09	Other secondary hypertension, malignant	Diagnosis	ICD-9-CM
405.1	Secondary hypertension, benign	Diagnosis	ICD-9-CM
405.11	Secondary renovascular hypertension, benign	Diagnosis	ICD-9-CM
405.19	Other secondary hypertension, benign	Diagnosis	ICD-9-CM
405.9	Unspecified secondary hypertension, unspecified	Diagnosis	ICD-9-CM
405.91	Secondary renovascular hypertension, unspecified	Diagnosis	ICD-9-CM
405.99	Other secondary hypertension, unspecified	Diagnosis	ICD-9-CM
997.91	Hypertension	Diagnosis	ICD-9-CM
I10	Essential (primary) hypertension	Diagnosis	ICD-10-CM
I11	Hypertensive heart disease	Diagnosis	ICD-10-CM
I11.0	Hypertensive heart disease with heart failure	Diagnosis	ICD-10-CM
I11.9	Hypertensive heart disease without heart failure	Diagnosis	ICD-10-CM
I12	Hypertensive chronic kidney disease	Diagnosis	ICD-10-CM
I12.0	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease	Diagnosis	ICD-10-CM
I12.9	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13	Hypertensive heart and chronic kidney disease	Diagnosis	ICD-10-CM
I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13.1	Hypertensive heart and chronic kidney disease without heart failure	Diagnosis	ICD-10-CM

Appendix C. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Claims-Based Exposures in this Request

Code	Description	Code Category	Code Type
I13.2	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13.10	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease	Diagnosis	ICD-10-CM
I13.11	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease	Diagnosis	ICD-10-CM
I15	Secondary hypertension	Diagnosis	ICD-10-CM
I15.0	Renovascular hypertension	Diagnosis	ICD-10-CM
I15.1	Hypertension secondary to other renal disorders	Diagnosis	ICD-10-CM
I15.2	Hypertension secondary to endocrine disorders	Diagnosis	ICD-10-CM
I15.8	Other secondary hypertension	Diagnosis	ICD-10-CM
I15.9	Secondary hypertension, unspecified	Diagnosis	ICD-10-CM
I16.0	Hypertensive urgency	Diagnosis	ICD-10-CM
I16.1	Hypertensive emergency	Diagnosis	ICD-10-CM
I16.9	Hypertensive crisis, unspecified	Diagnosis	ICD-10-CM
N26.2	Page kidney	Diagnosis	ICD-10-CM
I97.3	Postprocedural hypertension	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
Hypertension			
401	Essential hypertension	Diagnosis	ICD-9-CM
401.0	Essential hypertension, malignant	Diagnosis	ICD-9-CM
401.1	Essential hypertension, benign	Diagnosis	ICD-9-CM
401.9	Unspecified essential hypertension	Diagnosis	ICD-9-CM
402	Hypertensive heart disease	Diagnosis	ICD-9-CM
402.0	Malignant hypertensive heart disease	Diagnosis	ICD-9-CM
402.00	Malignant hypertensive heart disease without heart failure	Diagnosis	ICD-9-CM
402.01	Malignant hypertensive heart disease with heart failure	Diagnosis	ICD-9-CM
402.1	Benign hypertensive heart disease	Diagnosis	ICD-9-CM
402.10	Benign hypertensive heart disease without heart failure	Diagnosis	ICD-9-CM
402.11	Benign hypertensive heart disease with heart failure	Diagnosis	ICD-9-CM
402.9	Unspecified hypertensive heart disease	Diagnosis	ICD-9-CM
402.90	Unspecified hypertensive heart disease without heart failure	Diagnosis	ICD-9-CM
402.91	Hypertensive heart disease, unspecified, with heart failure	Diagnosis	ICD-9-CM
403	Hypertensive chronic kidney disease	Diagnosis	ICD-9-CM
403.0	Hypertensive chronic kidney disease, malignant	Diagnosis	ICD-9-CM
403.00	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
403.01	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
403.1	Hypertensive chronic kidney disease, benign	Diagnosis	ICD-9-CM
403.10	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
403.11	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
403.9	Hypertensive chronic kidney disease, unspecified	Diagnosis	ICD-9-CM
403.90	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
403.91	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404	Hypertensive heart and chronic kidney disease	Diagnosis	ICD-9-CM
404.0	Hypertensive heart and chronic kidney disease, malignant	Diagnosis	ICD-9-CM
404.00	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.01	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.02	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.03	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
404.1	Hypertensive heart and chronic kidney disease, benign	Diagnosis	ICD-9-CM
404.10	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.11	Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.12	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.13	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.9	Hypertensive heart and chronic kidney disease, unspecified	Diagnosis	ICD-9-CM
404.90	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.91	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified	Diagnosis	ICD-9-CM
404.92	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.93	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
405	Secondary hypertension	Diagnosis	ICD-9-CM
405.0	Secondary hypertension, malignant	Diagnosis	ICD-9-CM
405.01	Secondary renovascular hypertension, malignant	Diagnosis	ICD-9-CM
405.09	Other secondary hypertension, malignant	Diagnosis	ICD-9-CM
405.1	Secondary hypertension, benign	Diagnosis	ICD-9-CM
405.11	Secondary renovascular hypertension, benign	Diagnosis	ICD-9-CM
405.19	Other secondary hypertension, benign	Diagnosis	ICD-9-CM
405.9	Unspecified secondary hypertension, unspecified	Diagnosis	ICD-9-CM
405.91	Secondary renovascular hypertension, unspecified	Diagnosis	ICD-9-CM
405.99	Other secondary hypertension, unspecified	Diagnosis	ICD-9-CM
997.91	Hypertension	Diagnosis	ICD-9-CM
I10	Essential (primary) hypertension	Diagnosis	ICD-10-CM
I11	Hypertensive heart disease	Diagnosis	ICD-10-CM
I11.0	Hypertensive heart disease with heart failure	Diagnosis	ICD-10-CM
I11.9	Hypertensive heart disease without heart failure	Diagnosis	ICD-10-CM
I12	Hypertensive chronic kidney disease	Diagnosis	ICD-10-CM
I12.0	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease	Diagnosis	ICD-10-CM
I12.9	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13	Hypertensive heart and chronic kidney disease	Diagnosis	ICD-10-CM
I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
I13.1	Hypertensive heart and chronic kidney disease without heart failure	Diagnosis	ICD-10-CM
I13.2	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13.10	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease	Diagnosis	ICD-10-CM
I13.11	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease	Diagnosis	ICD-10-CM
I15	Secondary hypertension	Diagnosis	ICD-10-CM
I15.0	Renovascular hypertension	Diagnosis	ICD-10-CM
I15.1	Hypertension secondary to other renal disorders	Diagnosis	ICD-10-CM
I15.2	Hypertension secondary to endocrine disorders	Diagnosis	ICD-10-CM
I15.8	Other secondary hypertension	Diagnosis	ICD-10-CM
I15.9	Secondary hypertension, unspecified	Diagnosis	ICD-10-CM
I16.0	Hypertensive urgency	Diagnosis	ICD-10-CM
I16.1	Hypertensive emergency	Diagnosis	ICD-10-CM
I16.9	Hypertensive crisis, unspecified	Diagnosis	ICD-10-CM
N26.2	Page kidney	Diagnosis	ICD-10-CM
I97.3	Postprocedural hypertension	Diagnosis	ICD-10-CM
Elevated Blood Pressure			
796.2	Elevated blood pressure reading without diagnosis of hypertension	Diagnosis	ICD-9-CM
R03.0	Elevated blood-pressure reading, without diagnosis of hypertension	Diagnosis	ICD-10-CM
Obesity			
278.0	Overweight and obesity	Diagnosis	ICD-9-CM
278.00	Obesity, unspecified	Diagnosis	ICD-9-CM
278.01	Morbid obesity	Diagnosis	ICD-9-CM
278.02	Overweight	Diagnosis	ICD-9-CM
278.1	Localized adiposity	Diagnosis	ICD-9-CM
V45.86	Bariatric surgery status	Diagnosis	ICD-9-CM
44.31	High gastric bypass	Procedure	ICD-9-CM
44.68	Laparoscopic gastroplasty	Procedure	ICD-9-CM
44.95	Laparoscopic gastric restrictive procedure	Procedure	ICD-9-CM
E65	Localized adiposity	Diagnosis	ICD-10-CM
E66.01	Morbid (severe) obesity due to excess calories	Diagnosis	ICD-10-CM
E66.09	Other obesity due to excess calories	Diagnosis	ICD-10-CM
E66.1	Drug-induced obesity	Diagnosis	ICD-10-CM
E66.2	Morbid (severe) obesity with alveolar hypoventilation	Diagnosis	ICD-10-CM
E66.3	Overweight	Diagnosis	ICD-10-CM
E66.8	Other obesity	Diagnosis	ICD-10-CM
E66.9	Obesity, unspecified	Diagnosis	ICD-10-CM
Z98.84	Bariatric surgery status	Diagnosis	ICD-10-CM
0D1607A	Bypass Stomach to Jejunum with Autologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
0D160JA	Bypass Stomach to Jejunum with Synthetic Substitute, Open Approach	Procedure	ICD-10-PCS
0D160KA	Bypass Stomach to Jejunum with Nonautologous Tissue Substitute, Open Approach	Procedure	ICD-10-PCS
0D160ZA	Bypass Stomach to Jejunum, Open Approach	Procedure	ICD-10-PCS
0D1687A	Bypass Stomach to Jejunum with Autologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168JA	Bypass Stomach to Jejunum with Synthetic Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168KA	Bypass Stomach to Jejunum with Nonautologous Tissue Substitute, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0D168ZA	Bypass Stomach to Jejunum, Via Natural or Artificial Opening Endoscopic	Procedure	ICD-10-PCS
0DQ64ZZ	Repair Stomach, Percutaneous Endoscopic Approach	Procedure	ICD-10-PCS
0DV64CZ	Restriction of Stomach with Extraluminal Device, Percutaneous Endoscopic	Procedure	ICD-10-PCS
Body Mass Index (BMI) - Underweight			
V85.0	Body Mass Index less than 19, adult	Diagnosis	ICD-9-CM
V85.51	Body Mass Index, pediatric, less than 5th percentile for age	Diagnosis	ICD-9-CM
Z68.1	Body mass index (BMI) 19 or less, adult	Diagnosis	ICD-10-CM
Z68.51	Body mass index (BMI) pediatric, less than 5th percentile for age	Diagnosis	ICD-10-CM
Body Mass Index (BMI) - Normal Weight			
V85.1	Body Mass Index between 19-24, adult	Diagnosis	ICD-9-CM
V85.52	Body Mass Index, pediatric, 5th percentile to less than 85th percentile for age	Diagnosis	ICD-9-CM
Z68.20	Body mass index (BMI) 20.0-20.9, adult	Diagnosis	ICD-10-CM
Z68.21	Body mass index (BMI) 21.0-21.9, adult	Diagnosis	ICD-10-CM
Z68.22	Body mass index (BMI) 22.0-22.9, adult	Diagnosis	ICD-10-CM
Z68.23	Body mass index (BMI) 23.0-23.9, adult	Diagnosis	ICD-10-CM
Z68.24	Body mass index (BMI) 24.0-24.9, adult	Diagnosis	ICD-10-CM
Z68.52	Body mass index (BMI) pediatric, 5th percentile to less than 85th percentile for age	Diagnosis	ICD-10-CM
Body Mass Index (BMI) - Overweight			
V85.21	Body Mass Index 25.0-25.9, adult	Diagnosis	ICD-9-CM
V85.22	Body Mass Index 26.0-26.9, adult	Diagnosis	ICD-9-CM
V85.23	Body Mass Index 27.0-27.9, adult	Diagnosis	ICD-9-CM
V85.24	Body Mass Index 28.0-28.9, adult	Diagnosis	ICD-9-CM
V85.25	Body Mass Index 29.0-29.9, adult	Diagnosis	ICD-9-CM
V85.53	Body Mass Index, pediatric, 85th percentile to less than 95th percentile for age	Diagnosis	ICD-9-CM
Z68.25	Body mass index (BMI) 25.0-25.9, adult	Diagnosis	ICD-10-CM
Z68.26	Body mass index (BMI) 26.0-26.9, adult	Diagnosis	ICD-10-CM
Z68.27	Body mass index (BMI) 27.0-27.9, adult	Diagnosis	ICD-10-CM
Z68.28	Body mass index (BMI) 28.0-28.9, adult	Diagnosis	ICD-10-CM
Z68.29	Body mass index (BMI) 29.0-29.9, adult	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
Z68.53	Body mass index (BMI) pediatric, 85th percentile to less than 95th percentile for age	Diagnosis	ICD-10-CM
Body Mass Index (BMI) - Obese			
V85.3	Body Mass Index between 30-39, adult	Diagnosis	ICD-9-CM
V85.30	Body Mass Index 30.0-30.9, adult	Diagnosis	ICD-9-CM
V85.31	Body Mass Index 31.0-31.9, adult	Diagnosis	ICD-9-CM
V85.32	Body Mass Index 32.0-32.9, adult	Diagnosis	ICD-9-CM
V85.33	Body Mass Index 33.0-33.9, adult	Diagnosis	ICD-9-CM
V85.34	Body Mass Index 34.0-34.9, adult	Diagnosis	ICD-9-CM
V85.35	Body Mass Index 35.0-35.9, adult	Diagnosis	ICD-9-CM
V85.36	Body Mass Index 36.0-36.9, adult	Diagnosis	ICD-9-CM
V85.37	Body Mass Index 37.0-37.9, adult	Diagnosis	ICD-9-CM
V85.38	Body Mass Index 38.0-38.9, adult	Diagnosis	ICD-9-CM
V85.39	Body Mass Index 39.0-39.9, adult	Diagnosis	ICD-9-CM
V85.4	Body Mass Index 40 and over, adult	Diagnosis	ICD-9-CM
V85.41	Body Mass Index 40.0-44.9, adult	Diagnosis	ICD-9-CM
V85.42	Body Mass Index 45.0-49.9, adult	Diagnosis	ICD-9-CM
V85.43	Body Mass Index 50.0-59.9, adult	Diagnosis	ICD-9-CM
V85.44	Body Mass Index 60.0-69.9, adult	Diagnosis	ICD-9-CM
V85.45	Body Mass Index 70 and over, adult	Diagnosis	ICD-9-CM
V85.54	Body Mass Index, pediatric, greater than or equal to 95th percentile for age	Diagnosis	ICD-9-CM
Z68.30	Body mass index (BMI) 30.0-30.9, adult	Diagnosis	ICD-10-CM
Z68.31	Body mass index (BMI) 31.0-31.9, adult	Diagnosis	ICD-10-CM
Z68.32	Body mass index (BMI) 32.0-32.9, adult	Diagnosis	ICD-10-CM
Z68.33	Body mass index (BMI) 33.0-33.9, adult	Diagnosis	ICD-10-CM
Z68.34	Body mass index (BMI) 34.0-34.9, adult	Diagnosis	ICD-10-CM
Z68.35	Body mass index (BMI) 35.0-35.9, adult	Diagnosis	ICD-10-CM
Z68.36	Body mass index (BMI) 36.0-36.9, adult	Diagnosis	ICD-10-CM
Z68.37	Body mass index (BMI) 37.0-37.9, adult	Diagnosis	ICD-10-CM
Z68.38	Body mass index (BMI) 38.0-38.9, adult	Diagnosis	ICD-10-CM
Z68.39	Body mass index (BMI) 39.0-39.9, adult	Diagnosis	ICD-10-CM
Z68.41	Body mass index (BMI) 40.0-44.9, adult	Diagnosis	ICD-10-CM
Z68.42	Body mass index (BMI) 45.0-49.9, adult	Diagnosis	ICD-10-CM
Z68.43	Body mass index (BMI) 50-59.9, adult	Diagnosis	ICD-10-CM
Z68.44	Body mass index (BMI) 60.0-69.9, adult	Diagnosis	ICD-10-CM
Z68.45	Body mass index (BMI) 70 or greater, adult	Diagnosis	ICD-10-CM
Z68.54	Body mass index (BMI) pediatric, greater than or equal to 95th percentile for age	Diagnosis	ICD-10-CM
Type 2 Diabetes Mellitus			
250.00	Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
250.02	Diabetes mellitus without mention of complication, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.20	Diabetes with hyperosmolarity, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.22	Diabetes with hyperosmolarity, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.10	Diabetes with ketoacidosis, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.12	Diabetes with ketoacidosis, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.60	Diabetes with neurological manifestations, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.62	Diabetes with neurological manifestations, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.50	Diabetes with ophthalmic manifestations, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.52	Diabetes with ophthalmic manifestations, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.30	Diabetes with other coma, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.32	Diabetes with other coma, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.80	Diabetes with other specified manifestations, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.82	Diabetes with other specified manifestations, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.70	Diabetes with peripheral circulatory disorders, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.72	Diabetes with peripheral circulatory disorders, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.40	Diabetes with renal manifestations, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.42	Diabetes with renal manifestations, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.90	Diabetes with unspecified complication, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.92	Diabetes with unspecified complication, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
E11.3539	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E11.37X9	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, unspecified eye	Diagnosis	ICD-10-CM
E11.37	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E11.3219	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.354	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment	Diagnosis	ICD-10-CM
E11.3549	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, unspecified eye	Diagnosis	ICD-10-CM
E11.353	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula	Diagnosis	ICD-10-CM
E11.352	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula	Diagnosis	ICD-10-CM
E11.3529	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, unspecified eye	Diagnosis	ICD-10-CM
E11.3533	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, bilateral	Diagnosis	ICD-10-CM
E11.3531	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, right eye	Diagnosis	ICD-10-CM
E11.3532	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula, left eye	Diagnosis	ICD-10-CM
E11.355	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy	Diagnosis	ICD-10-CM
E11.01	Type 2 diabetes mellitus with hyperosmolarity with coma	Diagnosis	ICD-10-CM
E11	Type 2 diabetes mellitus	Diagnosis	ICD-10-CM
E11.37X3	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, bilateral	Diagnosis	ICD-10-CM
E11.37X1	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, right eye	Diagnosis	ICD-10-CM
E11.37X2	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment, left eye	Diagnosis	ICD-10-CM
E11.3213	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3211	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E11.3212	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E11.3293	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3291	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E11.3292	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E11.3299	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.3319	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.3313	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3311	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E11.3312	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E11.3393	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3391	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E11.3392	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E11.3399	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.39	Type 2 diabetes mellitus with other diabetic ophthalmic complication	Diagnosis	ICD-10-CM
E11.3543	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, bilateral	Diagnosis	ICD-10-CM
E11.3541	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, right eye	Diagnosis	ICD-10-CM
E11.3542	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment, left eye	Diagnosis	ICD-10-CM
E11.3519	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.3513	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3511	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E11.3512	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E11.3523	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, bilateral	Diagnosis	ICD-10-CM
E11.3521	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, right eye	Diagnosis	ICD-10-CM
E11.3522	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula, left eye	Diagnosis	ICD-10-CM
E11.3599	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E11.3593	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3591	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E11.3592	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E11.3553	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, bilateral	Diagnosis	ICD-10-CM
E11.3552	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, left eye	Diagnosis	ICD-10-CM
E11.3551	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, right eye	Diagnosis	ICD-10-CM
E11.3559	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy, unspecified eye	Diagnosis	ICD-10-CM
E11.3419	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.3413	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3411	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, right eye	Diagnosis	ICD-10-CM
E11.3412	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema, left eye	Diagnosis	ICD-10-CM
E11.3493	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, bilateral	Diagnosis	ICD-10-CM
E11.3491	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, right eye	Diagnosis	ICD-10-CM
E11.3492	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, left eye	Diagnosis	ICD-10-CM
E11.3499	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema, unspecified eye	Diagnosis	ICD-10-CM
E11.5	Type 2 diabetes mellitus with circulatory complications	Diagnosis	ICD-10-CM
E11.22	Type 2 diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E11.41	Type 2 diabetes mellitus with diabetic mononeuropathy	Diagnosis	ICD-10-CM
E11.42	Type 2 diabetes mellitus with diabetic polyneuropathy	Diagnosis	ICD-10-CM
E11.44	Type 2 diabetes mellitus with diabetic amyotrophy	Diagnosis	ICD-10-CM
E11.61	Type 2 diabetes mellitus with diabetic arthropathy	Diagnosis	ICD-10-CM
E11.620	Type 2 diabetes mellitus with diabetic dermatitis	Diagnosis	ICD-10-CM
E11.21	Type 2 diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E11.641	Type 2 diabetes mellitus with hypoglycemia with coma	Diagnosis	ICD-10-CM
E11.649	Type 2 diabetes mellitus with hypoglycemia without coma	Diagnosis	ICD-10-CM
E11.10	Type 2 diabetes mellitus with ketoacidosis without coma	Diagnosis	ICD-10-CM
E11.2	Type 2 diabetes mellitus with kidney complications	Diagnosis	ICD-10-CM
E11.4	Type 2 diabetes mellitus with neurological complications	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E11.3	Type 2 diabetes mellitus with ophthalmic complications	Diagnosis	ICD-10-CM
E11.59	Type 2 diabetes mellitus with other circulatory complications	Diagnosis	ICD-10-CM
E11.618	Type 2 diabetes mellitus with other diabetic arthropathy	Diagnosis	ICD-10-CM
E11.29	Type 2 diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E11.49	Type 2 diabetes mellitus with other diabetic neurological complication	Diagnosis	ICD-10-CM
E11.638	Type 2 diabetes mellitus with other oral complications	Diagnosis	ICD-10-CM
E11.628	Type 2 diabetes mellitus with other skin complications	Diagnosis	ICD-10-CM
E11.69	Type 2 diabetes mellitus with other specified complication	Diagnosis	ICD-10-CM
E11.6	Type 2 diabetes mellitus with other specified complications	Diagnosis	ICD-10-CM
E11.630	Type 2 diabetes mellitus with periodontal disease	Diagnosis	ICD-10-CM
E11.8	Type 2 diabetes mellitus with unspecified complications	Diagnosis	ICD-10-CM
E11.31	Type 2 diabetes mellitus with unspecified diabetic retinopathy	Diagnosis	ICD-10-CM
E11.36	Type 2 diabetes mellitus with diabetic cataract	Diagnosis	ICD-10-CM
E11.621	Type 2 diabetes mellitus with foot ulcer	Diagnosis	ICD-10-CM
E11.65	Type 2 diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E11.0	Type 2 diabetes mellitus with hyperosmolarity	Diagnosis	ICD-10-CM
E11.64	Type 2 diabetes mellitus with hypoglycemia	Diagnosis	ICD-10-CM
E11.1	Type 2 diabetes mellitus with ketoacidosis	Diagnosis	ICD-10-CM
E11.11	Type 2 diabetes mellitus with ketoacidosis with coma	Diagnosis	ICD-10-CM
E11.63	Type 2 diabetes mellitus with oral complications	Diagnosis	ICD-10-CM
E11.622	Type 2 diabetes mellitus with other skin ulcer	Diagnosis	ICD-10-CM
E11.62	Type 2 diabetes mellitus with skin complications	Diagnosis	ICD-10-CM
E11.9	Type 2 diabetes mellitus without complications	Diagnosis	ICD-10-CM
E11.359	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E11.52	Type 2 diabetes mellitus with diabetic peripheral angiopathy with gangrene	Diagnosis	ICD-10-CM
E11.51	Type 2 diabetes mellitus with diabetic peripheral angiopathy without gangrene	Diagnosis	ICD-10-CM
E11.43	Type 2 diabetes mellitus with diabetic autonomic (poly)neuropathy	Diagnosis	ICD-10-CM
E11.610	Type 2 diabetes mellitus with diabetic neuropathic arthropathy	Diagnosis	ICD-10-CM
E11.00	Type 2 diabetes mellitus with hyperosmolarity without nonketotic hyperglycemic-hyperosmolar coma (NKHHC)	Diagnosis	ICD-10-CM
E11.321	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E11.329	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E11.32	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy	Diagnosis	ICD-10-CM
E11.331	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E11.33	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy	Diagnosis	ICD-10-CM
E11.339	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E11.351	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E11.35	Type 2 diabetes mellitus with proliferative diabetic retinopathy	Diagnosis	ICD-10-CM
E11.349	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E11.341	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E11.34	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy	Diagnosis	ICD-10-CM
E11.319	Type 2 diabetes mellitus with unspecified diabetic retinopathy without macular edema	Diagnosis	ICD-10-CM
E11.311	Type 2 diabetes mellitus with unspecified diabetic retinopathy with macular edema	Diagnosis	ICD-10-CM
E11.40	Type 2 diabetes mellitus with diabetic neuropathy, unspecified	Diagnosis	ICD-10-CM
Dyslipidemia			
272.0	Pure hypercholesterolemia	Diagnosis	ICD-9-CM
272.1	Pure hyperglyceridemia	Diagnosis	ICD-9-CM
272.2	Mixed hyperlipidemia	Diagnosis	ICD-9-CM
272.3	Hyperchylomicronemia	Diagnosis	ICD-9-CM
272.4	Other and unspecified hyperlipidemia	Diagnosis	ICD-9-CM
272.5	Lipoprotein deficiencies	Diagnosis	ICD-9-CM
272.8	Other disorders of lipid metabolism	Diagnosis	ICD-9-CM
272.9	Unspecified disorder of lipid metabolism	Diagnosis	ICD-9-CM
E78	Disorders of lipoprotein metabolism and other lipidemias	Diagnosis	ICD-10-CM
E78.0	Pure hypercholesterolemia	Diagnosis	ICD-10-CM
E78.00	Pure hypercholesterolemia, unspecified	Diagnosis	ICD-10-CM
E78.01	Familial hypercholesterolemia	Diagnosis	ICD-10-CM
E78.1	Pure hyperglyceridemia	Diagnosis	ICD-10-CM
E78.2	Mixed hyperlipidemia	Diagnosis	ICD-10-CM
E78.3	Hyperchylomicronemia	Diagnosis	ICD-10-CM
E78.4	Other hyperlipidemia	Diagnosis	ICD-10-CM
E78.41	Elevated Lipoprotein(a)	Diagnosis	ICD-10-CM
E78.49	Other hyperlipidemia	Diagnosis	ICD-10-CM
E78.5	Hyperlipidemia, unspecified	Diagnosis	ICD-10-CM
E78.6	Lipoprotein deficiency	Diagnosis	ICD-10-CM
E78.8	Other disorders of lipoprotein metabolism	Diagnosis	ICD-10-CM
E78.89	Other lipoprotein metabolism disorders	Diagnosis	ICD-10-CM
E78.9	Disorder of lipoprotein metabolism, unspecified	Diagnosis	ICD-10-CM
Chronic Kidney Disease			
016.00	Tuberculosis of kidney, confirmation unspecified	Diagnosis	ICD-9-CM
016.01	Tuberculosis of kidney, bacteriological or histological examination not done	Diagnosis	ICD-9-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
016.02	Tuberculosis of kidney, bacteriological or histological examination unknown (at present)	Diagnosis	ICD-9-CM
016.03	Tuberculosis of kidney, tubercle bacilli found (in sputum) by microscopy	Diagnosis	ICD-9-CM
016.04	Tuberculosis of kidney, tubercle bacilli not found (in sputum) by microscopy, but found by bacterial culture	Diagnosis	ICD-9-CM
016.05	Tuberculosis of kidney, tubercle bacilli not found by bacteriological examination, but tuberculosis confirmed histologically	Diagnosis	ICD-9-CM
016.06	Tuberculosis of kidney, tubercle bacilli not found by bacteriological or histological examination, but tuberculosis confirmed by other methods [inoculation of animals]	Diagnosis	ICD-9-CM
095.4	Syphilis of kidney	Diagnosis	ICD-9-CM
189.0	Malignant neoplasm of kidney, except pelvis	Diagnosis	ICD-9-CM
189.9	Malignant neoplasm of urinary organ, site unspecified	Diagnosis	ICD-9-CM
223.0	Benign neoplasm of kidney, except pelvis	Diagnosis	ICD-9-CM
236.91	Neoplasm of uncertain behavior of kidney and ureter	Diagnosis	ICD-9-CM
249.40	Secondary diabetes mellitus with renal manifestations, not stated as uncontrolled, or unspecified	Diagnosis	ICD-9-CM
249.41	Secondary diabetes mellitus with renal manifestations, uncontrolled	Diagnosis	ICD-9-CM
250.40	Diabetes with renal manifestations, type II or unspecified type, not stated as uncontrolled	Diagnosis	ICD-9-CM
250.41	Diabetes with renal manifestations, type I [juvenile type], not stated as uncontrolled	Diagnosis	ICD-9-CM
250.42	Diabetes with renal manifestations, type II or unspecified type, uncontrolled	Diagnosis	ICD-9-CM
250.43	Diabetes with renal manifestations, type I [juvenile type], uncontrolled	Diagnosis	ICD-9-CM
271.4	Renal glycosuria	Diagnosis	ICD-9-CM
274.10	Gouty nephropathy, unspecified	Diagnosis	ICD-9-CM
283.11	Hemolytic-uremic syndrome	Diagnosis	ICD-9-CM
403.01	Hypertensive chronic kidney disease, malignant, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
403.11	Hypertensive chronic kidney disease, benign, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
403.91	Hypertensive chronic kidney disease, unspecified, with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.02	Hypertensive heart and chronic kidney disease, malignant, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.03	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.12	Hypertensive heart and chronic kidney disease, benign, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.13	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
404.92	Hypertensive heart and chronic kidney disease, unspecified, without heart failure and with chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
404.93	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease	Diagnosis	ICD-9-CM
440.1	Atherosclerosis of renal artery	Diagnosis	ICD-9-CM
442.1	Aneurysm of renal artery	Diagnosis	ICD-9-CM
572.4	Hepatorenal syndrome	Diagnosis	ICD-9-CM
580.0	Acute glomerulonephritis with lesion of proliferative glomerulonephritis	Diagnosis	ICD-9-CM
580.4	Acute glomerulonephritis with lesion of rapidly progressive glomerulonephritis	Diagnosis	ICD-9-CM
580.81	Acute glomerulonephritis with other specified pathological lesion in kidney in disease classified elsewhere	Diagnosis	ICD-9-CM
580.89	Other acute glomerulonephritis with other specified pathological lesion in kidney	Diagnosis	ICD-9-CM
580.9	Acute glomerulonephritis with unspecified pathological lesion in kidney	Diagnosis	ICD-9-CM
581.0	Nephrotic syndrome with lesion of proliferative glomerulonephritis	Diagnosis	ICD-9-CM
581.1	Nephrotic syndrome with lesion of membranous glomerulonephritis	Diagnosis	ICD-9-CM
581.2	Nephrotic syndrome with lesion of membranoproliferative glomerulonephritis	Diagnosis	ICD-9-CM
581.3	Nephrotic syndrome with lesion of minimal change glomerulonephritis	Diagnosis	ICD-9-CM
581.81	Nephrotic syndrome with other specified pathological lesion in kidney in diseases classified elsewhere	Diagnosis	ICD-9-CM
581.89	Other nephrotic syndrome with specified pathological lesion in kidney	Diagnosis	ICD-9-CM
581.9	Nephrotic syndrome with unspecified pathological lesion in kidney	Diagnosis	ICD-9-CM
582.0	Chronic glomerulonephritis with lesion of proliferative glomerulonephritis	Diagnosis	ICD-9-CM
582.1	Chronic glomerulonephritis with lesion of membranous glomerulonephritis	Diagnosis	ICD-9-CM
582.2	Chronic glomerulonephritis with lesion of membranoproliferative glomerulonephritis	Diagnosis	ICD-9-CM
582.4	Chronic glomerulonephritis with lesion of rapidly progressive glomerulonephritis	Diagnosis	ICD-9-CM
582.81	Chronic glomerulonephritis with other specified pathological lesion in kidney in diseases classified elsewhere	Diagnosis	ICD-9-CM
582.89	Other chronic glomerulonephritis with specified pathological lesion in kidney	Diagnosis	ICD-9-CM
582.9	Chronic glomerulonephritis with unspecified pathological lesion in kidney	Diagnosis	ICD-9-CM
583.0	Nephritis and nephropathy, not specified as acute or chronic, with lesion of proliferative glomerulonephritis	Diagnosis	ICD-9-CM
583.1	Nephritis and nephropathy, not specified as acute or chronic, with lesion of membranous glomerulonephritis	Diagnosis	ICD-9-CM
583.2	Nephritis and nephropathy, not specified as acute or chronic, with lesion of membranoproliferative glomerulonephritis	Diagnosis	ICD-9-CM
583.4	Nephritis and nephropathy, not specified as acute or chronic, with lesion of rapidly progressive glomerulonephritis	Diagnosis	ICD-9-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
583.6	Nephritis and nephropathy, not specified as acute or chronic, with lesion of renal cortical necrosis	Diagnosis	ICD-9-CM
583.7	Nephritis and nephropathy, not specified as acute or chronic, with lesion of renal medullary necrosis	Diagnosis	ICD-9-CM
583.81	Nephritis and nephropathy, not specified as acute or chronic, with other specified pathological lesion in kidney, in diseases classified elsewhere	Diagnosis	ICD-9-CM
583.89	Other nephritis and nephropathy, not specified as acute or chronic, with specified pathological lesion in kidney	Diagnosis	ICD-9-CM
583.9	Nephritis and nephropathy, not specified as acute or chronic, with unspecified pathological lesion in kidney	Diagnosis	ICD-9-CM
584.5	Acute kidney failure with lesion of tubular necrosis	Diagnosis	ICD-9-CM
584.6	Acute kidney failure with lesion of renal cortical necrosis	Diagnosis	ICD-9-CM
584.7	Acute kidney failure with lesion of medullary [papillary] necrosis	Diagnosis	ICD-9-CM
584.8	Acute kidney failure with other specified pathological lesion in kidney	Diagnosis	ICD-9-CM
584.9	Acute kidney failure, unspecified	Diagnosis	ICD-9-CM
585.1	Chronic kidney disease, Stage I	Diagnosis	ICD-9-CM
585.2	Chronic kidney disease, Stage II (mild)	Diagnosis	ICD-9-CM
585.3	Chronic kidney disease, Stage III (moderate)	Diagnosis	ICD-9-CM
585.4	Chronic kidney disease, Stage IV (severe)	Diagnosis	ICD-9-CM
585.5	Chronic kidney disease, Stage V	Diagnosis	ICD-9-CM
585.6	End stage renal disease	Diagnosis	ICD-9-CM
585.9	Chronic kidney disease, unspecified	Diagnosis	ICD-9-CM
586	Unspecified renal failure	Diagnosis	ICD-9-CM
587	Unspecified renal sclerosis	Diagnosis	ICD-9-CM
588.0	Renal osteodystrophy	Diagnosis	ICD-9-CM
588.1	Nephrogenic diabetes insipidus	Diagnosis	ICD-9-CM
588.81	Secondary hyperparathyroidism (of renal origin)	Diagnosis	ICD-9-CM
588.89	Other specified disorders resulting from impaired renal function	Diagnosis	ICD-9-CM
588.9	Unspecified disorder resulting from impaired renal function	Diagnosis	ICD-9-CM
591	Hydronephrosis	Diagnosis	ICD-9-CM
753.12	Congenital polycystic kidney, unspecified type	Diagnosis	ICD-9-CM
753.13	Congenital polycystic kidney, autosomal dominant	Diagnosis	ICD-9-CM
753.14	Congenital polycystic kidney, autosomal recessive	Diagnosis	ICD-9-CM
753.15	Congenital renal dysplasia	Diagnosis	ICD-9-CM
753.16	Congenital medullary cystic kidney	Diagnosis	ICD-9-CM
753.17	Congenital medullary sponge kidney	Diagnosis	ICD-9-CM
753.19	Other specified congenital cystic kidney disease	Diagnosis	ICD-9-CM
753.20	Unspecified obstructive defect of renal pelvis and ureter	Diagnosis	ICD-9-CM
753.21	Congenital obstruction of ureteropelvic junction	Diagnosis	ICD-9-CM
753.22	Congenital obstruction of ureterovesical junction	Diagnosis	ICD-9-CM
753.23	Congenital ureterocele	Diagnosis	ICD-9-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
753.29	Other obstructive defect of renal pelvis and ureter	Diagnosis	ICD-9-CM
794.4	Nonspecific abnormal results of kidney function study	Diagnosis	ICD-9-CM
R94.4	Abnormal results of kidney function studies	Diagnosis	ICD-10-CM
Q62.39	Other obstructive defects of renal pelvis and ureter	Diagnosis	ICD-10-CM
Q62.32	Cecoureterocele	Diagnosis	ICD-10-CM
Q62.31	Congenital ureterocele, orthotopic	Diagnosis	ICD-10-CM
Q62.2	Congenital megaureter	Diagnosis	ICD-10-CM
Q62.12	Congenital occlusion of ureterovesical orifice	Diagnosis	ICD-10-CM
Q62.11	Congenital occlusion of ureteropelvic junction	Diagnosis	ICD-10-CM
Q62.10	Congenital occlusion of ureter, unspecified	Diagnosis	ICD-10-CM
Q62.0	Congenital hydronephrosis	Diagnosis	ICD-10-CM
Q61.8	Other cystic kidney diseases	Diagnosis	ICD-10-CM
Q61.5	Medullary cystic kidney	Diagnosis	ICD-10-CM
Q61.4	Renal dysplasia	Diagnosis	ICD-10-CM
Q61.3	Polycystic kidney, unspecified	Diagnosis	ICD-10-CM
Q61.2	Polycystic kidney, adult type	Diagnosis	ICD-10-CM
Q61.19	Other polycystic kidney, infantile type	Diagnosis	ICD-10-CM
Q61.11	Cystic dilatation of collecting ducts	Diagnosis	ICD-10-CM
Q61.02	Congenital multiple renal cysts	Diagnosis	ICD-10-CM
N26.9	Renal sclerosis, unspecified	Diagnosis	ICD-10-CM
N26.1	Atrophy of kidney (terminal)	Diagnosis	ICD-10-CM
N25.9	Disorder resulting from impaired renal tubular function, unspecified	Diagnosis	ICD-10-CM
N25.89	Other disorders resulting from impaired renal tubular function	Diagnosis	ICD-10-CM
N25.81	Secondary hyperparathyroidism of renal origin	Diagnosis	ICD-10-CM
N25.1	Nephrogenic diabetes insipidus	Diagnosis	ICD-10-CM
N25.0	Renal osteodystrophy	Diagnosis	ICD-10-CM
N19	Unspecified kidney failure	Diagnosis	ICD-10-CM
N18.9	Chronic kidney disease, unspecified	Diagnosis	ICD-10-CM
N18.6	End stage renal disease	Diagnosis	ICD-10-CM
N18.5	Chronic kidney disease, stage 5	Diagnosis	ICD-10-CM
N18.4	Chronic kidney disease, stage 4 (severe)	Diagnosis	ICD-10-CM
N18.3	Chronic kidney disease, stage 3 (moderate)	Diagnosis	ICD-10-CM
N18.2	Chronic kidney disease, stage 2 (mild)	Diagnosis	ICD-10-CM
N18.1	Chronic kidney disease, stage 1	Diagnosis	ICD-10-CM
N17.9	Acute kidney failure, unspecified	Diagnosis	ICD-10-CM
N17.8	Other acute kidney failure	Diagnosis	ICD-10-CM
N17.2	Acute kidney failure with medullary necrosis	Diagnosis	ICD-10-CM
N17.1	Acute kidney failure with acute cortical necrosis	Diagnosis	ICD-10-CM
N17.0	Acute kidney failure with tubular necrosis	Diagnosis	ICD-10-CM
N16	Renal tubulo-interstitial disorders in diseases classified elsewhere	Diagnosis	ICD-10-CM
N15.9	Renal tubulo-interstitial disease, unspecified	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
N15.8	Other specified renal tubulo-interstitial diseases	Diagnosis	ICD-10-CM
N15.0	Balkan nephropathy	Diagnosis	ICD-10-CM
N14.4	Toxic nephropathy, not elsewhere classified	Diagnosis	ICD-10-CM
N14.3	Nephropathy induced by heavy metals	Diagnosis	ICD-10-CM
N14.2	Nephropathy induced by unspecified drug, medicament or biological substance	Diagnosis	ICD-10-CM
N14.1	Nephropathy induced by other drugs, medicaments and biological substances	Diagnosis	ICD-10-CM
N14.0	Analgesic nephropathy	Diagnosis	ICD-10-CM
N13.39	Other hydronephrosis	Diagnosis	ICD-10-CM
N13.30	Unspecified hydronephrosis	Diagnosis	ICD-10-CM
N13.2	Hydronephrosis with renal and ureteral calculous obstruction	Diagnosis	ICD-10-CM
N13.1	Hydronephrosis with ureteral stricture, not elsewhere classified	Diagnosis	ICD-10-CM
N08	Glomerular disorders in diseases classified elsewhere	Diagnosis	ICD-10-CM
N07.9	Hereditary nephropathy, not elsewhere classified with unspecified morphologic lesions	Diagnosis	ICD-10-CM
N07.8	Hereditary nephropathy, not elsewhere classified with other morphologic lesions	Diagnosis	ICD-10-CM
N07.7	Hereditary nephropathy, not elsewhere classified with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N07.6	Hereditary nephropathy, not elsewhere classified with dense deposit disease	Diagnosis	ICD-10-CM
N07.5	Hereditary nephropathy, not elsewhere classified with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N07.4	Hereditary nephropathy, not elsewhere classified with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N07.3	Hereditary nephropathy, not elsewhere classified with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N07.2	Hereditary nephropathy, not elsewhere classified with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N07.1	Hereditary nephropathy, not elsewhere classified with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N07.0	Hereditary nephropathy, not elsewhere classified with minor glomerular abnormality	Diagnosis	ICD-10-CM
N06.9	Isolated proteinuria with unspecified morphologic lesion	Diagnosis	ICD-10-CM
N06.8	Isolated proteinuria with other morphologic lesion	Diagnosis	ICD-10-CM
N06.7	Isolated proteinuria with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N06.6	Isolated proteinuria with dense deposit disease	Diagnosis	ICD-10-CM
N06.5	Isolated proteinuria with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N06.4	Isolated proteinuria with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N06.3	Isolated proteinuria with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N06.2	Isolated proteinuria with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N06.1	Isolated proteinuria with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N06.0	Isolated proteinuria with minor glomerular abnormality	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
N05.9	Unspecified nephritic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N05.8	Unspecified nephritic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N05.7	Unspecified nephritic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N05.6	Unspecified nephritic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N05.5	Unspecified nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N05.4	Unspecified nephritic syndrome with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N05.3	Unspecified nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N05.2	Unspecified nephritic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N05.1	Unspecified nephritic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N05.0	Unspecified nephritic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N04.9	Nephrotic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N04.8	Nephrotic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N04.7	Nephrotic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N04.6	Nephrotic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N04.5	Nephrotic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N04.4	Nephrotic syndrome with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N04.3	Nephrotic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N04.2	Nephrotic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N04.1	Nephrotic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N04.0	Nephrotic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N03.9	Chronic nephritic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N03.8	Chronic nephritic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N03.7	Chronic nephritic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N03.6	Chronic nephritic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N03.5	Chronic nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N03.4	Chronic nephritic syndrome with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N03.3	Chronic nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N03.2	Chronic nephritic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N03.1	Chronic nephritic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N03.0	Chronic nephritic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N02.9	Recurrent and persistent hematuria with unspecified morphologic changes	Diagnosis	ICD-10-CM
N02.8	Recurrent and persistent hematuria with other morphologic changes	Diagnosis	ICD-10-CM
N02.7	Recurrent and persistent hematuria with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N02.6	Recurrent and persistent hematuria with dense deposit disease	Diagnosis	ICD-10-CM
N02.5	Recurrent and persistent hematuria with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
N02.4	Recurrent and persistent hematuria with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N02.3	Recurrent and persistent hematuria with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N02.2	Recurrent and persistent hematuria with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N02.1	Recurrent and persistent hematuria with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N02.0	Recurrent and persistent hematuria with minor glomerular abnormality	Diagnosis	ICD-10-CM
N01.9	Rapidly progressive nephritic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N01.8	Rapidly progressive nephritic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N01.7	Rapidly progressive nephritic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N01.6	Rapidly progressive nephritic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N01.5	Rapidly progressive nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N01.4	Rapidly progressive nephritic syndrome with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N01.3	Rapidly progressive nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N01.2	Rapidly progressive nephritic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N01.1	Rapidly progressive nephritic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N01.0	Rapidly progressive nephritic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
N00.9	Acute nephritic syndrome with unspecified morphologic changes	Diagnosis	ICD-10-CM
N00.8	Acute nephritic syndrome with other morphologic changes	Diagnosis	ICD-10-CM
N00.7	Acute nephritic syndrome with diffuse crescentic glomerulonephritis	Diagnosis	ICD-10-CM
N00.6	Acute nephritic syndrome with dense deposit disease	Diagnosis	ICD-10-CM
N00.5	Acute nephritic syndrome with diffuse mesangiocapillary glomerulonephritis	Diagnosis	ICD-10-CM
N00.4	Acute nephritic syndrome with diffuse endocapillary proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N00.3	Acute nephritic syndrome with diffuse mesangial proliferative glomerulonephritis	Diagnosis	ICD-10-CM
N00.2	Acute nephritic syndrome with diffuse membranous glomerulonephritis	Diagnosis	ICD-10-CM
N00.1	Acute nephritic syndrome with focal and segmental glomerular lesions	Diagnosis	ICD-10-CM
N00.0	Acute nephritic syndrome with minor glomerular abnormality	Diagnosis	ICD-10-CM
M35.04	Sicca syndrome with tubulo-interstitial nephropathy	Diagnosis	ICD-10-CM
M32.15	Tubulo-interstitial nephropathy in systemic lupus erythematosus	Diagnosis	ICD-10-CM
M32.14	Glomerular disease in systemic lupus erythematosus	Diagnosis	ICD-10-CM
M10.39	Gout due to renal impairment, multiple sites	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
M10.38	Gout due to renal impairment, vertebrae	Diagnosis	ICD-10-CM
M10.379	Gout due to renal impairment, unspecified ankle and foot	Diagnosis	ICD-10-CM
M10.372	Gout due to renal impairment, left ankle and foot	Diagnosis	ICD-10-CM
M10.371	Gout due to renal impairment, right ankle and foot	Diagnosis	ICD-10-CM
M10.369	Gout due to renal impairment, unspecified knee	Diagnosis	ICD-10-CM
M10.362	Gout due to renal impairment, left knee	Diagnosis	ICD-10-CM
M10.361	Gout due to renal impairment, right knee	Diagnosis	ICD-10-CM
M10.359	Gout due to renal impairment, unspecified hip	Diagnosis	ICD-10-CM
M10.352	Gout due to renal impairment, left hip	Diagnosis	ICD-10-CM
M10.351	Gout due to renal impairment, right hip	Diagnosis	ICD-10-CM
M10.349	Gout due to renal impairment, unspecified hand	Diagnosis	ICD-10-CM
M10.342	Gout due to renal impairment, left hand	Diagnosis	ICD-10-CM
M10.341	Gout due to renal impairment, right hand	Diagnosis	ICD-10-CM
M10.339	Gout due to renal impairment, unspecified wrist	Diagnosis	ICD-10-CM
M10.332	Gout due to renal impairment, left wrist	Diagnosis	ICD-10-CM
M10.331	Gout due to renal impairment, right wrist	Diagnosis	ICD-10-CM
M10.329	Gout due to renal impairment, unspecified elbow	Diagnosis	ICD-10-CM
M10.322	Gout due to renal impairment, left elbow	Diagnosis	ICD-10-CM
M10.321	Gout due to renal impairment, right elbow	Diagnosis	ICD-10-CM
M10.319	Gout due to renal impairment, unspecified shoulder	Diagnosis	ICD-10-CM
M10.312	Gout due to renal impairment, left shoulder	Diagnosis	ICD-10-CM
M10.311	Gout due to renal impairment, right shoulder	Diagnosis	ICD-10-CM
M10.30	Gout due to renal impairment, unspecified site	Diagnosis	ICD-10-CM
K76.7	Hepatorenal syndrome	Diagnosis	ICD-10-CM
I72.2	Aneurysm of renal artery	Diagnosis	ICD-10-CM
I70.1	Atherosclerosis of renal artery	Diagnosis	ICD-10-CM
I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease	Diagnosis	ICD-10-CM
I13.11	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease	Diagnosis	ICD-10-CM
I13.10	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I12.9	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	Diagnosis	ICD-10-CM
I12.0	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease	Diagnosis	ICD-10-CM
E74.8	Other specified disorders of carbohydrate metabolism	Diagnosis	ICD-10-CM
E13.29	Other specified diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E13.22	Other specified diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E13.21	Other specified diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E11.65	Type 2 diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E11.29	Type 2 diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E11.22	Type 2 diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E11.21	Type 2 diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E10.65	Type 1 diabetes mellitus with hyperglycemia	Diagnosis	ICD-10-CM
E10.29	Type 1 diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E10.22	Type 1 diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E10.21	Type 1 diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E09.29	Drug or chemical induced diabetes mellitus with other diabetic kidney complication	Diagnosis	ICD-10-CM
E09.22	Drug or chemical induced diabetes mellitus with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E09.21	Drug or chemical induced diabetes mellitus with diabetic nephropathy	Diagnosis	ICD-10-CM
E08.65	Diabetes mellitus due to underlying condition with hyperglycemia	Diagnosis	ICD-10-CM
E08.29	Diabetes mellitus due to underlying condition with other diabetic kidney complication	Diagnosis	ICD-10-CM
E08.22	Diabetes mellitus due to underlying condition with diabetic chronic kidney disease	Diagnosis	ICD-10-CM
E08.21	Diabetes mellitus due to underlying condition with diabetic nephropathy	Diagnosis	ICD-10-CM
D59.3	Hemolytic-uremic syndrome	Diagnosis	ICD-10-CM
D41.22	Neoplasm of uncertain behavior of left ureter	Diagnosis	ICD-10-CM
D41.21	Neoplasm of uncertain behavior of right ureter	Diagnosis	ICD-10-CM
D41.20	Neoplasm of uncertain behavior of unspecified ureter	Diagnosis	ICD-10-CM
D41.12	Neoplasm of uncertain behavior of left renal pelvis	Diagnosis	ICD-10-CM
D41.11	Neoplasm of uncertain behavior of right renal pelvis	Diagnosis	ICD-10-CM
D41.10	Neoplasm of uncertain behavior of unspecified renal pelvis	Diagnosis	ICD-10-CM
D41.02	Neoplasm of uncertain behavior of left kidney	Diagnosis	ICD-10-CM
D41.01	Neoplasm of uncertain behavior of right kidney	Diagnosis	ICD-10-CM
D41.00	Neoplasm of uncertain behavior of unspecified kidney	Diagnosis	ICD-10-CM
D30.02	Benign neoplasm of left kidney	Diagnosis	ICD-10-CM
D30.01	Benign neoplasm of right kidney	Diagnosis	ICD-10-CM
D30.00	Benign neoplasm of unspecified kidney	Diagnosis	ICD-10-CM
C68.9	Malignant neoplasm of urinary organ, unspecified	Diagnosis	ICD-10-CM
C64.9	Malignant neoplasm of unspecified kidney, except renal pelvis	Diagnosis	ICD-10-CM
C64.2	Malignant neoplasm of left kidney, except renal pelvis	Diagnosis	ICD-10-CM
C64.1	Malignant neoplasm of right kidney, except renal pelvis	Diagnosis	ICD-10-CM
B52.0	Plasmodium malariae malaria with nephropathy	Diagnosis	ICD-10-CM
A52.75	Syphilis of kidney and ureter	Diagnosis	ICD-10-CM
A18.11	Tuberculosis of kidney and ureter	Diagnosis	ICD-10-CM
Cardiomegaly			
429.3	Cardiomegaly	Diagnosis	ICD-9-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
I51.7	Cardiomegaly	Diagnosis	ICD-10-CM
Pyelonephritis			
590.0	Chronic pyelonephritis	Diagnosis	ICD-9-CM
590.00	Chronic pyelonephritis without lesion of renal medullary necrosis	Diagnosis	ICD-9-CM
590.01	Chronic pyelonephritis with lesion of renal medullary necrosis	Diagnosis	ICD-9-CM
590.1	Acute pyelonephritis	Diagnosis	ICD-9-CM
590.10	Acute pyelonephritis without lesion of renal medullary necrosis	Diagnosis	ICD-9-CM
590.11	Acute pyelonephritis with lesion of renal medullary necrosis	Diagnosis	ICD-9-CM
590.8	Other pyelonephritis or pyonephrosis, not specified as acute or chronic	Diagnosis	ICD-9-CM
590.80	Unspecified pyelonephritis	Diagnosis	ICD-9-CM
590.81	Pyelitis or pyelonephritis in diseases classified elsewhere	Diagnosis	ICD-9-CM
A02.25	Salmonella pyelonephritis	Diagnosis	ICD-10-CM
D86.84	Sarcoid pyelonephritis	Diagnosis	ICD-10-CM
N10	Acute pyelonephritis	Diagnosis	ICD-10-CM
N11.0	Nonobstructive reflux-associated chronic pyelonephritis	Diagnosis	ICD-10-CM
N11.1	Chronic obstructive pyelonephritis	Diagnosis	ICD-10-CM
N11.8	Other chronic tubulo-interstitial nephritis	Diagnosis	ICD-10-CM
N11.9	Chronic tubulo-interstitial nephritis, unspecified	Diagnosis	ICD-10-CM
N12	Tubulo-interstitial nephritis, not specified as acute or chronic	Diagnosis	ICD-10-CM
N13.6	Pyonephrosis	Diagnosis	ICD-10-CM
N16	Renal tubulo-interstitial disorders in diseases classified elsewhere	Diagnosis	ICD-10-CM
Vesicoureteral Reflux			
593.7	Vesicoureteral reflux	Diagnosis	ICD-9-CM
593.70	Vesicoureteral reflux, unspecified or without reflux nephropathy	Diagnosis	ICD-9-CM
593.71	Vesicoureteral reflux with reflux nephropathy, unilateral	Diagnosis	ICD-9-CM
593.72	Vesicoureteral reflux with reflux nephropathy, bilateral	Diagnosis	ICD-9-CM
593.73	Vesicoureteral reflux with reflux nephropathy, NOS	Diagnosis	ICD-9-CM
N13.7	Vesicoureteral-reflux	Diagnosis	ICD-10-CM
N13.70	Vesicoureteral-reflux, unspecified	Diagnosis	ICD-10-CM
N13.71	Vesicoureteral-reflux without reflux nephropathy	Diagnosis	ICD-10-CM
N13.72	Vesicoureteral-reflux with reflux nephropathy without hydroureter	Diagnosis	ICD-10-CM
N13.721	Vesicoureteral-reflux with reflux nephropathy without hydroureter, unilateral	Diagnosis	ICD-10-CM
N13.722	Vesicoureteral-reflux with reflux nephropathy without hydroureter, bilateral	Diagnosis	ICD-10-CM
N13.729	Vesicoureteral-reflux with reflux nephropathy without hydroureter, unspecified	Diagnosis	ICD-10-CM
N13.73	Vesicoureteral-reflux with reflux nephropathy with hydroureter	Diagnosis	ICD-10-CM
N13.731	Vesicoureteral-reflux with reflux nephropathy with hydroureter, unilateral	Diagnosis	ICD-10-CM
N13.732	Vesicoureteral-reflux with reflux nephropathy with hydroureter, bilateral	Diagnosis	ICD-10-CM
N13.739	Vesicoureteral-reflux with reflux nephropathy with hydroureter, unspecified	Diagnosis	ICD-10-CM
N13.9	Obstructive and reflux uropathy, unspecified	Diagnosis	ICD-10-CM
Neurofibromatosis, Type 1			
237.71	Neurofibromatosis, Type 1 (von Recklinghausen's disease)	Diagnosis	ICD-9-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
Q85.01	Neurofibromatosis, type 1	Diagnosis	ICD-10-CM
Hyperthyroidism			
242	Thyrotoxicosis with or without goiter	Diagnosis	ICD-9-CM
242.0	Toxic diffuse goiter	Diagnosis	ICD-9-CM
242.00	Toxic diffuse goiter without mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.01	Toxic diffuse goiter with mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.1	Toxic uninodular goiter	Diagnosis	ICD-9-CM
242.10	Toxic uninodular goiter without mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.11	Toxic uninodular goiter with mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.2	Toxic multinodular goiter	Diagnosis	ICD-9-CM
242.20	Toxic multinodular goiter without mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.21	Toxic multinodular goiter with mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.3	Toxic nodular goiter, unspecified type	Diagnosis	ICD-9-CM
242.30	Toxic nodular goiter, unspecified type, without mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.31	Toxic nodular goiter, unspecified type, with mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.4	Thyrotoxicosis from ectopic thyroid nodule	Diagnosis	ICD-9-CM
242.40	Thyrotoxicosis from ectopic thyroid nodule without mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.41	Thyrotoxicosis from ectopic thyroid nodule with mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.8	Thyrotoxicosis of other specified origin	Diagnosis	ICD-9-CM
242.80	Thyrotoxicosis of other specified origin without mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.81	Thyrotoxicosis of other specified origin with mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.9	Thyrotoxicosis without mention of goiter or other cause	Diagnosis	ICD-9-CM
242.90	Thyrotoxicosis without mention of goiter or other cause, without mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
242.91	Thyrotoxicosis without mention of goiter or other cause, with mention of thyrotoxic crisis or storm	Diagnosis	ICD-9-CM
E05.00	Thyrotoxicosis with diffuse goiter without thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
E05.01	Thyrotoxicosis with diffuse goiter with thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
E05.10	Thyrotoxicosis with toxic single thyroid nodule without thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
E05.11	Thyrotoxicosis with toxic single thyroid nodule with thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
E05.20	Thyrotoxicosis with toxic multinodular goiter without thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
E05.21	Thyrotoxicosis with toxic multinodular goiter with thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
E05.30	Thyrotoxicosis from ectopic thyroid tissue without thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
E05.31	Thyrotoxicosis from ectopic thyroid tissue with thyrotoxic crisis or storm	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
E05.40	Thyrotoxicosis factitia without thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
E05.41	Thyrotoxicosis factitia with thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
E05.80	Other thyrotoxicosis without thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
E05.81	Other thyrotoxicosis with thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
E05.90	Thyrotoxicosis, unspecified without thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
E05.91	Thyrotoxicosis, unspecified with thyrotoxic crisis or storm	Diagnosis	ICD-10-CM
Tuberous Sclerosis			
759.5	Tuberous sclerosis	Diagnosis	ICD-9-CM
Q85.1	Tuberous sclerosis	Diagnosis	ICD-10-CM
Systemic Lupus Erythematosus			
710.0	Systemic lupus erythematosus	Diagnosis	ICD-9-CM
M32.0	Drug-induced systemic lupus erythematosus	Diagnosis	ICD-10-CM
M32.10	Systemic lupus erythematosus, organ or system involvement unspecified	Diagnosis	ICD-10-CM
M32.11	Endocarditis in systemic lupus erythematosus	Diagnosis	ICD-10-CM
M32.12	Pericarditis in systemic lupus erythematosus	Diagnosis	ICD-10-CM
M32.13	Lung involvement in systemic lupus erythematosus	Diagnosis	ICD-10-CM
M32.14	Glomerular disease in systemic lupus erythematosus	Diagnosis	ICD-10-CM
M32.15	Tubulo-interstitial nephropathy in systemic lupus erythematosus	Diagnosis	ICD-10-CM
M32.19	Other organ or system involvement in systemic lupus erythematosus	Diagnosis	ICD-10-CM
M32.8	Other forms of systemic lupus erythematosus	Diagnosis	ICD-10-CM
M32.9	Systemic lupus erythematosus, unspecified	Diagnosis	ICD-10-CM
Cushing's Syndrome			
255.0	Cushing's syndrome	Diagnosis	ICD-9-CM
E24	Cushing's syndrome	Diagnosis	ICD-10-CM
E24.0	Pituitary-dependent Cushing's disease	Diagnosis	ICD-10-CM
E24.2	Drug-induced Cushing's syndrome	Diagnosis	ICD-10-CM
E24.3	Ectopic ACTH syndrome	Diagnosis	ICD-10-CM
E24.4	Alcohol-induced pseudo-Cushing's syndrome	Diagnosis	ICD-10-CM
E24.8	Other Cushing's syndrome	Diagnosis	ICD-10-CM
E24.9	Cushing's syndrome, unspecified	Diagnosis	ICD-10-CM
Williams Syndrome			
758.9	Conditions due to anomaly of unspecified chromosome	Diagnosis	ICD-9-CM
Q93.82	Williams syndrome	Diagnosis	ICD-10-CM
Turner's Syndrome			
758.6	Gonadal dysgenesis	Diagnosis	ICD-9-CM
Q96	Turner's syndrome	Diagnosis	ICD-10-CM
Q96.8	Other variants of Turner's syndrome	Diagnosis	ICD-10-CM
Q96.9	Turner's syndrome, unspecified	Diagnosis	ICD-10-CM
Normal Blood Pressure Exam			
Z01.30	Encounter for examination of blood pressure without abnormal findings	Diagnosis	ICD-10-CM

Appendix D. List of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS) Diagnosis and Procedure Codes Used to Define Baseline Characteristics in this Request

Code	Description	Code Category	Code Type
Abnormal Blood Pressure Exam			
Z01.31	Encounter for examination of blood pressure with abnormal findings	Diagnosis	ICD-10-CM

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

Generic Name	Brand Name
Angiotensin Receptor Blockers (ARB)	
valsartan	valsartan
valsartan	Diovan
telmisartan	telmisartan
telmisartan	Micardis
olmesartan medoxomil	Benicar
olmesartan medoxomil	olmesartan
losartan potassium	losartan
losartan potassium	Cozaar
losartan potassium	losartan potassium (bulk)
irbesartan	irbesartan
irbesartan	Avapro
eprosartan mesylate	eprosartan
eprosartan mesylate	Teveten
candesartan cilexetil	candesartan
candesartan cilexetil	Atacand
azilsartan medoxomil	Edarbi
Angiotensin-Converting Enzyme Inhibitors (ACEI)	
trandolapril	trandolapril
trandolapril	Mavik
ramipril	ramipril
ramipril	Altace
quinapril HCl	quinapril
quinapril HCl	Accupril
perindopril erbumine	perindopril erbumine
perindopril erbumine	Aceon
moexipril HCl	Univasc
moexipril HCl	moexipril
lisinopril/dietary supplement,comb.10	Lytensopril
lisinopril/dietary supplement,comb.10	Lytensopril-90
lisinopril	lisinopril
lisinopril	Prinivil
lisinopril	Zestril
lisinopril	Qbrelis
lisinopril	lisinopril (bulk)
fosinopril sodium	fosinopril
fosinopril sodium	Monopril
enalaprilat dihydrate	enalaprilat
enalapril maleate	enalapril maleate
enalapril maleate	enalapril maleate (bulk)
enalapril maleate	Vasotec
enalapril maleate	Epaned
captopril	Capoten
captopril	captopril

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

Generic Name	Brand Name
captopril	captopril (bulk)
benazepril HCl	benazepril
benazepril HCl	Lotensin
benazepril HCl	benazepril HCl (bulk)
Alpha Antagonists	
terazosin HCl	Hytrin
terazosin HCl	terazosin
prazosin HCl	Minipress
prazosin HCl	prazosin
prazosin HCl	prazosin HCl (bulk)
phentolamine mesylate	phentolamine
phentolamine mesylate	phentolamine mesylate (bulk)
phenoxybenzamine HCl	phenoxybenzamine
phenoxybenzamine HCl	phenoxybenzamine (bulk)
phenoxybenzamine HCl	Dibenzyline
moxisylyte HCl	moxisylyte (bulk)
doxazosin mesylate	Cardura XL
doxazosin mesylate	Cardura
doxazosin mesylate	doxazosin
doxazosin mesylate	doxazosin mesylate (bulk)
Beta-Blockers	
timolol maleate	timolol maleate (bulk)
timolol maleate	timolol maleate
sotalol HCl	sotalol
sotalol HCl	Sorine
sotalol HCl	Sotalol AF
sotalol HCl	Betapace
sotalol HCl	Betapace AF
sotalol HCl	Sotylize
propranolol HCl	propranolol
propranolol HCl	Inderal XL
propranolol HCl	Inderal
propranolol HCl	Inderal LA
propranolol HCl	propranolol (bulk)
propranolol HCl	InnoPran XL
propranolol HCl	Hemangeol
pindolol	pindolol
penbutolol sulfate	Levatol
nebivolol HCl	Bystolic
nadolol	nadolol
nadolol	Corgard
nadolol	nadolol (bulk)
metoprolol tartrate/dietary supplement,comb.10	Hypertensolol
metoprolol tartrate	metoprolol tartrate

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

Generic Name	Brand Name
metoprolol tartrate	Lopressor
metoprolol tartrate	metoprolol tartrate (bulk)
metoprolol succinate	metoprolol succinate
metoprolol succinate	Toprol XL
metoprolol succinate	Kaspargo Sprinkle
labetalol in dextrose 5 % in water	labetalol in dextrose 5 %
labetalol HCl in sodium chloride, iso-osmotic	labetalol in NaCl (iso-osmot)
labetalol HCl in dextrose, iso-osmotic	labetalol in dextrose,iso-osm
labetalol HCl	labetalol
labetalol HCl	Trandate
labetalol HCl	labetalol (bulk)
labetalol HCl	Normodyne
esmolol HCl in sterile water	esmolol in sterile water
esmolol HCl in sodium chloride, iso-osmotic	Brevibloc in NaCl (iso-osm)
esmolol HCl in sodium chloride, iso-osmotic	esmolol in NaCl (iso-osm)
esmolol HCl	esmolol
esmolol HCl	Brevibloc
carvedilol phosphate	Coreg CR
carvedilol phosphate	carvedilol phosphate
carvedilol	carvedilol
carvedilol	Coreg
bisoprolol fumarate	bisoprolol fumarate
bisoprolol fumarate	bisoprolol fumarate (bulk)
bisoprolol fumarate	Zebeta
betaxolol HCl	betaxolol
betaxolol HCl	Kerlone
atenolol	atenolol
atenolol	Tenormin
atenolol	atenolol (bulk)
acebutolol HCl	acebutolol (bulk)
acebutolol HCl	acebutolol
acebutolol HCl	Sectral
Calcium Channel Blockers	
verapamil HCl	verapamil
verapamil HCl	verapamil
verapamil HCl	Covera-HS
verapamil HCl	verapamil (bulk)
verapamil HCl	Verelan
verapamil HCl	Verelan PM
verapamil HCl	Calan SR
verapamil HCl	Isoptin SR
verapamil HCl	Calan
nisoldipine	nisoldipine
nisoldipine	Sular

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

Generic Name	Brand Name
nimodipine	nimodipine
nimodipine	Nymalize
nimodipine	Nimotop
nimodipine	nimodipine (bulk)
nifedipine, micronized	nifedipine, micronized (bulk)
nifedipine	nifedipine
nifedipine	Adalat CC
nifedipine	Nifediac CC
nifedipine	nifedipine (bulk)
nifedipine	Procardia XL
nifedipine	Nifedical XL
nifedipine	Afeditab CR
nifedipine	Procardia
nicardipine in sodium chloride, iso-osmotic	Cardene IV in sodium chloride
nicardipine in sodium chloride, iso-osmotic	nicardipine in NaCl (iso-os)
nicardipine in dextrose, iso-osmotic	Cardene IV in dextrose
nicardipine in 5 % dextrose in water	nicardipine in 5 % dextrose
nicardipine HCl in 0.9 % sodium chloride	nicardipine in 0.9 % sod chlor
nicardipine HCl	nicardipine
nicardipine HCl	Cardene SR
nicardipine HCl	Cardene
nicardipine HCl	Cardene IV
levamlodipine maleate	Conjupri
isradipine	DynaCirc CR
isradipine	isradipine
isradipine	DynaCirc
felodipine	Plendil
felodipine	felodipine
diltiazem HCl/dextrose 5 % in water	diltiazem in dextrose 5 %
diltiazem HCl in 0.9 % sodium chloride	diltiazem HCl in 0.9% NaCl
diltiazem HCl	diltiazem HCl
diltiazem HCl	Cardizem LA
diltiazem HCl	Tiazac
diltiazem HCl	Taztia XT
diltiazem HCl	Cardizem CD
diltiazem HCl	Diltzac ER
diltiazem HCl	Dilacor XR
diltiazem HCl	diltiazem HCl (bulk)
diltiazem HCl	Diltia XT
diltiazem HCl	DILT-CD
diltiazem HCl	Cardizem
diltiazem HCl	Tiadylt ER
diltiazem HCl	DILT-XR
diltiazem HCl	Cartia XT

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

Generic Name	Brand Name
diltiazem HCl	Matzim LA
clevidipine butyrate	Cleviprex
Central Alpha-Agonists	
methyldopate HCl	methyldopate
methyldopa	methyldopa
guanfacine HCl	guanfacine
guanfacine HCl	Tenex
guanfacine HCl	guanfacine (bulk)
guanabenz acetate	guanabenz (bulk)
guanabenz acetate	guanabenz
clonidine HCl	clonidine HCl (bulk)
clonidine HCl	clonidine HCl
clonidine HCl	Catapres
clonidine HCl	Nexiclon XR
clonidine	clonidine
clonidine	Catapres-TTS-2
clonidine	Catapres-TTS-1
clonidine	Catapres-TTS-3
Direct Renin Inhibitors	
aliskiren hemifumarate	Tekturna
aliskiren hemifumarate	aliskiren
Direct Vasodilators	
tolazoline HCl	tolazoline (bulk)
nitroprusside sodium in 0.9 % sodium chloride	Nipride RTU
nitroprusside sodium	Nitropress
nitroprusside sodium	sodium nitroprusside
minoxidil	minoxidil (bulk)
minoxidil	minoxidil
hydralazine HCl	hydralazine
hydralazine HCl	hydralazine HCl (bulk)
diazoxide	Hyperstat
diazoxide	diazoxide (bulk)
Diuretics	
triamterene	Dyrenium
triamterene	triamterene (bulk)
triamterene	triamterene
toremide	toremide
toremide	Demadex
spironolactone, micronized	spironolactone micro (bulk)
spironolactone	spironolactone
spironolactone	Aldactone
spironolactone	spironolactone (bulk)
spironolactone	CaroSpir
potassium nitrate	potassium nitrate (bulk)

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

Generic Name	Brand Name
potassium nitrate	Salt peter
metolazone	metolazone
metolazone	Zaroxolyn
methyclothiazide	methyclothiazide (bulk)
methyclothiazide	methyclothiazide
methyclothiazide	Enduron
indapamide	indapamide
indapamide	Lozol
hydrochlorothiazide	hydrochlorothiazide
hydrochlorothiazide	hydrochlorothiazide (bulk)
hydrochlorothiazide	Microzide
furosemide/dextrose 5 % in water	furosemide in dextrose 5 %
furosemide in 0.9 % sodium chloride	furosemide in 0.9 % NaCl
furosemide	furosemide
furosemide	furosemide (bulk)
furosemide	Lasix
ethacrynic acid	Edecrin
ethacrynic acid	ethacrynic acid
ethacrynic acid	ethacrynic acid (bulk)
eplerenone	eplerenone
eplerenone	Inspra
chlorthalidone	chlorthalidone
chlorthalidone	Thalitone
chlorothiazide sodium	chlorothiazide sodium
chlorothiazide sodium	Diuril IV
chlorothiazide	chlorothiazide
chlorothiazide	Diuril
bumetanide	Bumex
bumetanide	bumetanide
bendroflumethiazide	Naturetin
amiloride HCl	amiloride
amiloride HCl	Midamor
Combination Products	
propranolol HCl/hydrochlorothiazide	propranolol-hydrochlorothiazid
propranolol HCl/hydrochlorothiazide	Inderide
prazosin HCl/polythiazide	Minizide
nadolol/bendroflumethiazide	Corzide
nadolol/bendroflumethiazide	nadolol-bendroflumethiazide
metoprolol tartrate/hydrochlorothiazide	Lopressor HCT
metoprolol tartrate/hydrochlorothiazide	metoprolol ta-hydrochlorothiaz
metoprolol succinate/hydrochlorothiazide	metoprolol su-hydrochlorothiaz
metoprolol succinate/hydrochlorothiazide	Dutoprol
methyl dopa/hydrochlorothiazide	methyl dopa-hydrochlorothiazide
methyl dopa/chlorothiazide	Aldoclor

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

Generic Name	Brand Name
hydralazine HCl/reserpine/hydrochlorothiazide	hydralazine-reserpin-hcthiazid
hydralazine HCl/hydrochlorothiazide	Hydra-Zide
deserpidine/methylothiazide	Enduronyl Forte
clonidine HCl/chlorthalidone	Clorpres
bisoprolol fumarate/hydrochlorothiazide	bisoprolol-hydrochlorothiazide
bisoprolol fumarate/hydrochlorothiazide	Ziac
atenolol/chlorthalidone	atenolol-chlorthalidone
atenolol/chlorthalidone	Tenoretic 50
atenolol/chlorthalidone	Tenoretic 100
trandolapril/verapamil HCl	trandolapril-verapamil
trandolapril/verapamil HCl	Tarka
quinapril HCl/hydrochlorothiazide	quinapril-hydrochlorothiazide
quinapril HCl/hydrochlorothiazide	Quinaretic
quinapril HCl/hydrochlorothiazide	Accuretic
perindopril arginine/amlodipine besylate	Prestalia
moexipril HCl/hydrochlorothiazide	moexipril-hydrochlorothiazide
moexipril HCl/hydrochlorothiazide	Uniretic
lisinopril/hydrochlorothiazide	lisinopril-hydrochlorothiazide
lisinopril/hydrochlorothiazide	Zestoretic
lisinopril/hydrochlorothiazide	Prinzide
fosinopril sodium/hydrochlorothiazide	fosinopril-hydrochlorothiazide
fosinopril sodium/hydrochlorothiazide	Monopril HCT
enalapril maleate/hydrochlorothiazide	enalapril-hydrochlorothiazide
enalapril maleate/hydrochlorothiazide	Vaseretic
enalapril maleate/felodipine	Lexxel
captopril/hydrochlorothiazide	captopril-hydrochlorothiazide
captopril/hydrochlorothiazide	Capozide
benazepril HCl/hydrochlorothiazide	benazepril-hydrochlorothiazide
benazepril HCl/hydrochlorothiazide	Lotensin HCT
amlodipine besylate/benazepril HCl	Lotrel
amlodipine besylate/benazepril HCl	amlodipine-benazepril
valsartan/hydrochlorothiazide	Diovan HCT
valsartan/hydrochlorothiazide	valsartan-hydrochlorothiazide
telmisartan/hydrochlorothiazide	telmisartan-hydrochlorothiazid
telmisartan/hydrochlorothiazide	Micardis HCT
telmisartan/amlodipine besylate	telmisartan-amlodipine
telmisartan/amlodipine besylate	Twynsta
sacubitril/valsartan	Entresto
olmesartan medoxomil/hydrochlorothiazide	olmesartan-hydrochlorothiazide
olmesartan medoxomil/hydrochlorothiazide	Benicar HCT
olmesartan medoxomil/amlodipine besylate/hydrochlorothiazide	olmesartan-amlodipin-hcthiazid
olmesartan medoxomil/amlodipine besylate/hydrochlorothiazide	Tribenzor

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

Generic Name	Brand Name
nebivolol HCl/valsartan	Byvalson
losartan potassium/hydrochlorothiazide	losartan-hydrochlorothiazide
losartan potassium/hydrochlorothiazide	Hyzaar
irbesartan/hydrochlorothiazide	Avalide
irbesartan/hydrochlorothiazide	irbesartan-hydrochlorothiazide
eprosartan mesylate/hydrochlorothiazide	Teveten HCT
candesartan cilexetil/hydrochlorothiazide	Atacand HCT
candesartan cilexetil/hydrochlorothiazide	candesartan-hydrochlorothiazid
azilsartan medoxomil/chlorthalidone	Edarbyclor
amlodipine besylate/valsartan/hydrochlorothiazide	amlodipine-valsartan-hcthiazid
amlodipine besylate/valsartan/hydrochlorothiazide	Exforge HCT
amlodipine besylate/valsartan	amlodipine-valsartan
amlodipine besylate/valsartan	Exforge
amlodipine besylate/olmesartan medoxomil	amlodipine-olmesartan
amlodipine besylate/olmesartan medoxomil	Azor
amlodipine besylate/celecoxib	Consensi
triamterene/hydrochlorothiazide	Maxzide
triamterene/hydrochlorothiazide	triamterene-hydrochlorothiazid
triamterene/hydrochlorothiazide	Dyazide
triamterene/hydrochlorothiazide	Maxzide-25mg
spironolactone/hydrochlorothiazide	spironolacton-hydrochlorothiaz
spironolactone/hydrochlorothiazide	Aldactazide
amiloride HCl/hydrochlorothiazide	amiloride-hydrochlorothiazide
amiloride HCl/hydrochlorothiazide	Moduretic
aliskiren hemifumarate/hydrochlorothiazide	Tekturna HCT
Dopamine Receptor Agonists	
fenoldopam mesylate	Corloпам
fenoldopam mesylate	fenoldopam
Alpha and Beta Adrenergic Blockers	
labetalol in dextrose 5 % in water	labetalol in dextrose 5 %
labetalol HCl in sodium chloride, iso-osmotic	labetalol in NaCl (iso-osmot)
labetalol HCl in dextrose, iso-osmotic	labetalol in dextrose,iso-osm
labetalol HCl	labetalol
labetalol HCl	labetalol (bulk)
labetalol HCl	Normodyne
labetalol HCl	Trandate
carvedilol phosphate	Coreg CR
carvedilol phosphate	carvedilol phosphate
carvedilol	Coreg
carvedilol	carvedilol
Thiazide Diuretics	
trichlormethiazide	trichlormethiazide (bulk)
metolazone	Zaroxolyn
metolazone	metolazone

Appendix E. List of Generic and Brand Names of Medical Products Used to Define Baseline Characteristics in this Request

Generic Name	Brand Name
methyclothiazide	methyclothiazide (bulk)
methyclothiazide	Enduron
methyclothiazide	methyclothiazide
indapamide	indapamide
indapamide	Lozol
hydrochlorothiazide	hydrochlorothiazide
hydrochlorothiazide	hydrochlorothiazide (bulk)
hydrochlorothiazide	Microzide
chlorthalidone	chlorthalidone
chlorthalidone	Thalitone
chlorothiazide sodium	chlorothiazide sodium
chlorothiazide sodium	Diuril IV
chlorothiazide	chlorothiazide
chlorothiazide	Diuril
bendroflumethiazide	Naturetin

Potassium-Sparing Diuretics

triamterene	triamterene
triamterene	triamterene (bulk)
triamterene	Dyrenium
spironolactone, micronized	spironolactone micro (bulk)
spironolactone	spironolactone
spironolactone	Aldactone
spironolactone	spironolactone (bulk)
spironolactone	CaroSpir
eplerenone	eplerenone
eplerenone	Inspra
amiloride HCl	amiloride
amiloride HCl	Midamor

Appendix F. Specifications Defining Parameters Used in this Request

This request will execute the Cohort Identification and Descriptive Analysis (CIDA) tool, version 10.4.0 to compare claims and clinical definitions of hypertension in a pediatric population with blood pressure vitals measurements in the Sentinel Distributed Database (SDD).

Data Partners: KPCO, KPHI, KPMA, KPNC, KPNW, KPWA, MCRF
Query Period: Index date: July 1, 2006 - July 31, 2016; Follow-up ends July 31, 2019
Coverage requirement: Medical & Drug Coverage
Pre-index enrollment requirement: 183 days
Post-index enrollment requirement: 0
Enrollment gap: 45 days
Censor output categorization: 0-183 184-364 365-729 730-1094 1095+
Stratifications: Age group, Sex, Calendar year, Race, Hispanic
Freeze data: No
Envelope macro: Reclassify encounters during inpatient stay as inpatient

Scenario	Age Group	Exposure/Event					Exclusion Criteria					Number of instances the criteria should be found in evaluation period	
		Index Exposure/ Event	Cohort definition	Washout period	Incident with respect to Care setting	Censor enrollment at evidence of	Inclusion/ Exclusion	Criteria	Care setting	Evaluation period start	Evaluation period end		
1	3-5, 6-12, 13-17 years	Elevated or hypertensive blood pressure measurement (hard coded combination of a same-day diastolic + systolic measurement, with height measurement within 6 months that equates to a elevated or hypertensive BP according to AAP guidelines)	01: First valid date index date	0	N/A	N/A	Death; Data Partner End Date; Query End Date	N/A	N/A	N/A	N/A	N/A	N/A
2	3-5, 6-12, 13-17 years	Normotensive blood pressure measurement (hard coded combination of a same-day diastolic + systolic measurement, with height measurement within 6 months that equates to a normotensive BP according to AAP guidelines)	01: First valid date index date	0	N/A	N/A	Death; Data Partner End Date; Query End Date	Elevated or hypertension BP measurement	Exclusion	N/A	ever	ever	1

Appendix F. Specifications Defining Parameters Used in this Request

This request will execute the Cohort Identification and Descriptive Analysis (CIDA) tool, version 10.4.0 to compare claims and clinical definitions of hypertension in a pediatric population with blood pressure vitals measurements in the Sentinel Distributed Database (SDD).

Scenario	Age Group	Exposure/Event					Exclusion Criteria						Number of instances the criteria should be found in evaluation period
		Index Exposure/ Event	Cohort definition	Washout period	Incident with respect to Care setting	Censor enrollment at evidence of	Inclusion/ Exclusion	Criteria	Care setting	Evaluation period start	Evaluation period end		
3	3-5, 6-12, 13-17 years	Elevated or hypertensive blood pressure measurement (hard coded combination of a same-day diastolic + systolic measurement, with height measurement within 6 months that equates to a elevated or hypertensive BP according to AAP guidelines)	01: First valid date index date	0	N/A	N/A	Death; Data Partner End Date; Query End Date	Normotensive BP measurement	Exclusion	N/A	1	ever	1
4	3-5, 6-12, 13-17 years	Normotensive blood pressure measurement (hard coded combination of a same-day diastolic + systolic measurement, with height measurement within 6 months that equates to a normotensive BP according to AAP guidelines)	01: First valid date index date	0	N/A	N/A	Death; Data Partner End Date; Query End Date	Elevated or hypertension BP measurement	Exclusion	N/A	ever	-1	1
5	3-5, 6-12, 13-17 years	Elevated, hypertensive or normotensive blood pressure measurement (hard coded combination of a same-day diastolic + systolic measurement, with height measurement within 6 months)	02: All valid index dates	0	N/A	N/A	Death; Data Partner End Date; Query End Date	N/A	N/A	N/A	N/A	N/A	N/A
6	3-12 years	Elevated, hypertensive or normotensive blood pressure measurement (hard coded combination of a same-day diastolic + systolic measurement, with height measurement within 6 months)	01: First valid date index date	0	N/A	N/A	Death; Data Partner End Date; Query End Date	N/A	N/A	N/A	N/A	N/A	N/A

Appendix F. Specifications Defining Parameters Used in this Request

This request will execute the Cohort Identification and Descriptive Analysis (CIDA) tool, version 10.4.0 to compare claims and clinical definitions of hypertension in a pediatric population with blood pressure vitals measurements in the Sentinel Distributed Database (SDD).

Scenario	Age Group	Exposure/Event					Exclusion Criteria						Number of instances the criteria should be found in evaluation period
		Index Exposure/ Event	Cohort definition	Washout period	Incident with respect to Care setting	Censor enrollment at evidence of	Inclusion/ Exclusion	Criteria	Care setting	Evaluation period start	Evaluation period end		
7	3-12 years	Elevated, hypertensive or normotensive blood pressure measurement (hard coded combination of a same-day diastolic + systolic measurement, with height measurement within 6 months)	01: First valid date index date	0	N/A	N/A	Death; Data Partner End Date; Query End Date	N/A	N/A	N/A	N/A	N/A	N/A
8	13-17 years	Elevated, hypertensive or normotensive blood pressure measurement (hard coded combination of a same-day diastolic + systolic measurement, with height measurement within 6 months)	01: First valid date index date	0	N/A	N/A	Death; Data Partner End Date; Query End Date	N/A	N/A	N/A	N/A	N/A	N/A
9	13-17 years	Elevated, hypertensive or normotensive blood pressure measurement (hard coded combination of a same-day diastolic + systolic measurement, with height measurement within 6 months)	01: First valid date index date	0	N/A	N/A	Death; Data Partner End Date; Query End Date	N/A	N/A	N/A	N/A	N/A	N/A
10	3-12 years	Elevated, hypertensive or normotensive blood pressure measurement (hard coded combination of a same-day diastolic + systolic measurement, with height measurement within 6 months)	01: First valid date index date	0	N/A	N/A	Death; Data Partner End Date; Query End Date	N/A	N/A	N/A	N/A	N/A	N/A

Appendix F. Specifications Defining Parameters Used in this Request

This request will execute the Cohort Identification and Descriptive Analysis (CIDA) tool, version 10.4.0 to compare claims and clinical definitions of hypertension in a pediatric population with blood pressure vitals measurements in the Sentinel Distributed Database (SDD).

Scenario	Age Group	Exposure/Event					Exclusion Criteria						Number of instances the criteria should be found in evaluation period
		Index Exposure/ Event	Cohort definition	Washout period	Incident with respect to Care setting	Censor enrollment at evidence of	Inclusion/ Exclusion	Criteria	Care setting	Evaluation period start	Evaluation period end		
11	13-17 years	Elevated, hypertensive or normotensive blood pressure measurement (hard coded combination of a same-day diastolic + systolic measurement, with height measurement within 6 months)	01: First valid date index date	0	N/A	N/A	Death; Data Partner End Date; Query End Date	N/A	N/A	N/A	N/A	N/A	N/A
12	3-12 years	Hypertension claims definition 1: 2 Outpatient HTN claims (combo) OR 1 inpatient HTN claim	01: First valid date index date	0	N/A	Outpatient: - ED - AD - OA or Inpatient (IP)	Death; Data Partner End Date; Query End Date	N/A	N/A	N/A	N/A	N/A	N/A
13	3-12 years	Hypertension definition 2: Any HTN claim	01: First valid date index date	0	N/A	Any	Death; Data Partner End Date; Query End Date	N/A	N/A	N/A	N/A	N/A	N/A
14	13-17 years	Hypertension claims definition 1: 2 Outpatient HTN claims (combo) OR 1 inpatient HTN claim	01: First valid date index date	0	N/A	Outpatient: - ED - AD - OA or Inpatient (IP)	Death; Data Partner End Date; Query End Date	N/A	N/A	N/A	N/A	N/A	N/A

Appendix F. Specifications Defining Parameters Used in this Request

This request will execute the Cohort Identification and Descriptive Analysis (CIDA) tool, version 10.4.0 to compare claims and clinical definitions of hypertension in a pediatric population with blood pressure vitals measurements in the Sentinel Distributed Database (SDD).

Scenario	Age Group	Exposure/Event					Exclusion Criteria					Number of instances the criteria should be found in evaluation period	
		Index Exposure/ Event	Cohort definition	Washout period	Incident with respect to Care setting	Censor enrollment at evidence of	Inclusion/ Exclusion	Criteria	Care setting	Evaluation period start	Evaluation period end		
15	13-17 years	Hypertension definition 2: Any HTN claim	01: First valid date index date	0	N/A	Any	Death; Data Partner End Date; Query End Date	N/A	N/A	N/A	N/A	N/A	N/A

ICD-9, ICD-10, HCPCS, and CPT codes are provided by Optum360.

NDC codes are checked against First Data Bank's "National Drug Data File (NDDF®) Plus."

Appendix G. Specifications Defining Combo and Utilization Metric Parameters Used in this Request

Combo								
Combination Group	Combination description	Combo Code	Raw Group	Combo Order	Combination date	Raw Days from Start	Combination Behavior	Encounter type for each combination component
Hypertension claims definition 1	2 hypertension codes in the outpatient care setting	HTNC1	Hypertension	1	First code to occur	(1, 1095)	DX: Combo should behave as a diagnosis	Emergency department encounter;
			Hypertension	2				Ambulatory visit; Other ambulatory visit; Non-Acute Institutional Stay
Utilization								
Medical utilization evaluation period start	Medical utilization evaluation period end	Medical visit care settings	Drug utilization evaluation period start	Drug utilization evaluation period end				
-183	0	*Inpatient hospital stay; *Non-acute institutional stay; *Emergency department encounter; *Ambulatory visit; *Other ambulatory visit; *Any care setting	-183	0				

Appendix H. Specifications Defining Baseline Characteristic Parameters Used in this Request

Baseline Characteristics								
Characteristic	CovarNum	Combo Code Criteria	Care setting	Principal diagnosis position	Evaluation period start	Evaluation period end	Exclude evidence of days supply if characteristic includes dispensings	Number of instances the characteristic should be found in evaluation
Vitals Measures								
Height	n/a		n/a	n/a	-183	183	n/a	1
Systolic Blood Pressure	n/a		n/a	n/a	0	0	n/a	1
Diastolic Blood Pressure	n/a		n/a	n/a	0	0	n/a	1
Blood Pressure Exam Codes								
Normal BP exam Z01.30 (pre-index)	COVAR 39		Any care setting	N/A	-183	0	N/A	1
Abnormal BP Exam Z01.31 (pre-index)	COVAR 40		Any care setting	N/A	-183	0	N/A	1
Normal BP exam Z01.30 (post-index)	COVAR 41		Any care setting	N/A	1	1095	N/A	1
Abnormal BP Exam Z01.31 (post-index)	COVAR 42		Any care setting	N/A	1	1095	N/A	1
Combo: Normal BP exam AND pre-hypertensive at index (pre-index)	COVAR 78	COVAR 43 AND COVAR 39						
Combo: Abnormal BP exam AND pre-hypertensive at index (pre-index)	COVAR 79	COVAR 43 AND COVAR 40						
Combo: Normal BP exam AND pre-hypertensive at index (post-index)	COVAR 80	COVAR 43 AND COVAR 41						
Combo: Abnormal BP exam AND pre-hypertensive at index (post-index)	COVAR 81	COVAR 43 AND COVAR 42						
Combo: Normal BP exam AND hypertensive at index (pre-index)	COVAR 82	COVAR 44 AND COVAR 39						
Combo: Abnormal BP exam AND hypertensive at index (pre-index)	COVAR 83	COVAR 44 AND COVAR 40						
Combo: Normal BP exam AND hypertensive at index (post-index)	COVAR 84	COVAR 44 AND COVAR 41						
Combo: Abnormal BP exam AND hypertensive at index (post-index)	COVAR 85	COVAR 44 AND COVAR 42						
Additional Clinical Measures								
Elevated	COVAR 43		n/a	n/a	0	0	n/a	1
Hypertensive	COVAR 44		n/a	n/a	0	0	n/a	1
Normotensive	COVAR 45		n/a	n/a	0	0	n/a	1
At least 1 additional BP Measure in 183 days	COVAR 50		n/a	n/a	1	183	n/a	1

Appendix H. Specifications Defining Baseline Characteristic Parameters Used in this Request

Baseline Characteristics								
Characteristic	CovarNum	Combo Code Criteria	Care setting	Principal diagnosis position	Evaluation period start	Evaluation period end	Exclude evidence of days supply if characteristic includes dispensings	Number of instances the characteristic should be found in evaluation
At least 2 additional BP Measures in 183 days	COVAR 51		n/a	n/a	1	183	n/a	2
At least 1 additional BP Measure in 365 days	COVAR 52		n/a	n/a	1	365	n/a	1
At least 2 additional BP Measures in 365 days	COVAR 53		n/a	n/a	1	365	n/a	2
At least 1 additional BP Measure ever	COVAR 54		n/a	n/a	1	ever	n/a	1
At least 2 additional BP Measures ever	COVAR 55		n/a	n/a	1	ever	n/a	2
Combo: NO additional BP Measure 183 (NOT At least 1 BP measure in 183 days)	COVAR 56	NOT COVAR 50						
Combo: NO additional BP Measure 365 (NOT At least 1 BP measure in 365 days)	COVAR 57	NOT COVAR 52						
Combo: NO additional BP Measure ever (NOT At least 1 BP measure ever)	COVAR 58	NOT COVAR 54						
Combo: Hypertensive at index AND At least 1 additional BP Measure in 183 days	COVAR 69	COVAR 44 AND COVAR 50						
Combo: Hypertensive at index AND at least 2 additional BP Measures in 183 days	COVAR 70	COVAR 44 AND COVAR 51						
Combo: Hypertensive at index AND no additional BP Measure in 183 days (hypertensive AND NOT At least 1 BP measure in 183 days)	COVAR 71	COVAR 44 AND NOT COVAR 50						
Combo: Hypertensive at index AND At least 1 additional BP Measure in 365 days	COVAR 72	COVAR 44 AND COVAR 52						
Combo: Hypertensive at index AND at least 2 additional BP Measures in 365 days	COVAR 73	COVAR 44 AND COVAR 53						
Combo: Hypertensive at index AND no additional BP Measure in 365 days (hypertensive AND NOT At least 1 BP measure in 365 days)	COVAR 74	COVAR 44 AND NOT COVAR 52						
Combo: Hypertensive at index AND At least 1 additional BP Measure ever	COVAR 75	COVAR 44 AND COVAR 54						
Combo: Hypertensive at index AND at least 2 additional BP Measures ever	COVAR 76	COVAR 44 AND COVAR 55						

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Baseline Characteristics								
Characteristic	CovarNum	Combo Code Criteria	Care setting	Principal diagnosis position	Evaluation period start	Evaluation period end	Exclude evidence of days supply if characteristic includes dispensings	Number of instances the characteristic should be found in evaluation
Combo: Hypertensive at index AND no additional BP Measure ever (hypertensive AND NOT At least 1 BP measure ever)	COVAR 77	COVAR 44 AND NOT COVAR 54						
Claims Algorithms								
Inpatient hypertension code	COVAR 46		IP	Any	0	1095	n/a	1
2 Outpatient hypertension codes	COVAR 47		ED, AV, OA	Any	0	1095	n/a	2
New: 3 Outpatient hypertension codes	COVAR 94		ED, AV, OA	Any	0	1095	n/a	3
Claims HTN definition 1: Combo: 1 Inpatient OR 2 outpatient hypertension codes	COVAR 59	COVAR 46 OR COVAR 47						
New Claims HTN definition 1: Combo: 1 Inpatient OR 3 outpatient hypertension codes	COVAR 95	COVAR 46 OR COVAR 94						
Claims HTN definition 2: any hypertension code	COVAR 48		Any care setting	Any	0	1095	n/a	1
Claims Pre-HTN definition (R03.0 OR 796.2)	COVAR 49		Any care setting	Any	0	1095	n/a	1
Claims x Clinical Algorithm Matrix								
Combo: Pre-hypertensive AND pre-HTN claim	COVAR 60	COVAR 43 AND COVAR 49						
Combo: Pre-hypertensive AND NOT pre-HTN claim	COVAR 61	COVAR 43 AND NOT COVAR 49						
Combo: Hypertensive AND HTN Claims def. 1: (1 IP or 2 ED claims)	COVAR 62	COVAR 44 AND (COVAR 46 OR COVAR 47)						
Combo: Hypertensive AND NOT HTN Claims def. 1: (1 IP or 2 ED claims)	COVAR 63	COVAR 44 AND NOT (COVAR 46 OR COVAR 47)						
Combo: Hypertensive AND HTN Claims def. 2 (Any HTN claim)	COVAR 64	COVAR 44 AND COVAR 48						
Combo: Hypertensive AND NOT HTN Claims def. 2 (Any HTN claim)	COVAR 65	COVAR 44 AND NOT COVAR 48						
Combo: Pre-hypertensive AND NOT (HTN claims def. 1 OR HTN claims def. 2 OR pre-HTN claim)	COVAR 66	COVAR 43 AND NOT (COVAR 46 OR COVAR 47 OR COVAR 48 OR COVAR 49)						

Appendix H. Specifications Defining Baseline Characteristic Parameters Used in this Request

Baseline Characteristics								
Characteristic	CovarNum	Combo Code Criteria	Care setting	Principal diagnosis position	Evaluation period start	Evaluation period end	Exclude evidence of days supply if characteristic includes dispensings	Number of instances the characteristic should be found in evaluation
Combo: Hypertensive AND NOT (HTN Claims def 1 OR HTN Claims def 2 OR pre-HTN Claim)	COVAR 67	COVAR 44 AND NOT (COVAR 46 OR COVAR 47 OR COVAR 48 OR COVAR 49)						
Baseline Medication Use								
Angiotensin receptor blockers	COVAR 19		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1
Angiotensin-converting enzyme inhibitors	COVAR 20		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1
Alpha antagonists	COVAR 21		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1
Beta-blockers	COVAR 22		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1

Appendix H. Specifications Defining Baseline Characteristic Parameters Used in this Request

Baseline Characteristics								
Characteristic	CovarNum	Combo Code Criteria	Care setting	Principal diagnosis position	Evaluation period start	Evaluation period end	Exclude evidence of days supply if characteristic includes dispensings	Number of instances the characteristic should be found in evaluation
Calcium channel blockers	COVAR 23		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1
Central Alpha-agonists	COVAR 24		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1
Direct renin inhibitor	COVAR 25		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1
Direct vasodilators	COVAR 26		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1
Diuretics	COVAR 27		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1
Combination products	COVAR 28		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1

Appendix H. Specifications Defining Baseline Characteristic Parameters Used in this Request

Baseline Characteristics								
Characteristic	CovarNum	Combo Code Criteria	Care setting	Principal diagnosis position	Evaluation period start	Evaluation period end	Exclude evidence of days supply if characteristic includes dispensings	Number of instances the characteristic should be found in evaluation
New: Thiazide diuretics	COVAR 86		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1
New: Potassium-sparing diuretics	COVAR 87		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1
New: Dopamine receptor agonists	COVAR 88		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1
New: Alpha and Beta Adrenergic Blockers	COVAR 89		N/A	N/A	-183	0	Evaluation period should search for only evidence of days supply	1
Angiotensin receptor blockers	COVAR 29		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1
Angiotensin-converting enzyme inhibitors	COVAR 30		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1

Appendix H. Specifications Defining Baseline Characteristic Parameters Used in this Request

Baseline Characteristics								
Characteristic	CovarNum	Combo Code Criteria	Care setting	Principal diagnosis position	Evaluation period start	Evaluation period end	Exclude evidence of days supply if characteristic includes dispensings	Number of instances the characteristic should be found in evaluation
Alpha antagonists	COVAR 31		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1
Beta-blockers	COVAR 32		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1
Calcium channel blockers	COVAR 33		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1
Central Alpha-agonists	COVAR 34		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1
Direct renin inhibitor	COVAR 35		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1
Direct vasodilators	COVAR 36		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1

Appendix H. Specifications Defining Baseline Characteristic Parameters Used in this Request

Baseline Characteristics								
Characteristic	CovarNum	Combo Code Criteria	Care setting	Principal diagnosis position	Evaluation period start	Evaluation period end	Exclude evidence of days supply if characteristic includes dispensings	Number of instances the characteristic should be found in evaluation
Diuretics	COVAR 37		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1
Combination products	COVAR 38		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1
New: Thiazide diuretics	COVAR 90		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1
New: Potassium-sparing diuretics	COVAR 91		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1
New: Dopamine receptor agonists	COVAR 92		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1
New: Alpha and Beta Adrenergic Blockers	COVAR 93		N/A	N/A	1	End of enrollment	Evaluation period should search for only evidence of days supply	1

Appendix H. Specifications Defining Baseline Characteristic Parameters Used in this Request

Baseline Characteristics								
Characteristic	CovarNum	Combo Code Criteria	Care setting	Principal diagnosis position	Evaluation period start	Evaluation period end	Exclude evidence of days supply if characteristic includes dispensings	Number of instances the characteristic should be found in evaluation
Baseline Conditions								
Obesity	COVAR 1		Any care setting	N/A	-183	0	N/A	1
BMI - Underweight	COVAR 2		Any care setting	N/A	-183	0	N/A	1
BMI - Normal weight	COVAR 3		Any care setting	N/A	-183	0	N/A	1
BMI - Overweight	COVAR 4		Any care setting	N/A	-183	0	N/A	1
BMI - Obese	COVAR 5		Any care setting	N/A	-183	0	N/A	1
Obesity + BMI Obese combo covariate	COVAR 68	COVAR 1 OR COVAR 5						
Type 2 Diabetes	COVAR 6		Any care setting	N/A	-183	0	N/A	1
Dyslipidemia	COVAR 7		Any care setting	N/A	-183	0	N/A	1
Chronic Kidney Disease	COVAR 8		Any care setting	N/A	-183	0	N/A	1
Cardiomegaly	COVAR 9		Any care setting	N/A	-183	0	N/A	1
Pyelonephritis	COVAR 10		Any care setting	N/A	-183	0	N/A	1
Vesicoureteral reflux	COVAR 11		Any care setting	N/A	-183	0	N/A	1
Neurofibromatosis type 1	COVAR 12		Any care setting	N/A	-183	0	N/A	1
Hyperthyroidism	COVAR 13		Any care setting	N/A	-183	0	N/A	1
Tuberous sclerosis	COVAR 14		Any care setting	N/A	-183	0	N/A	1
Systemic lupus erythematosus	COVAR 15		Any care setting	N/A	-183	0	N/A	1
Cushing syndrome	COVAR 16		Any care setting	N/A	-183	0	N/A	1
Williams syndrome	COVAR 17		Any care setting	N/A	-183	0	N/A	1
Turner syndrome	COVAR 18		Any care setting	N/A	-183	0	N/A	1