



Treated Chronic Disease Prevalence and Costs in Minnesota

SUPPLEMENTAL APPENDICES

Appendix 1: Certification to the Commissioner of Minnesota Management and Budget



Protecting, Maintaining and Improving the Health of All Minnesotans

December 2, 2019

Mr. Myron Frans
Commissioner
Minnesota Management and Budget
400 Centennial Building
658 Cedar Street
St. Paul, MN 55155
Submitted via email.

Dear Commissioner Frans,

The 2015 Minnesota Legislature directed the Minnesota Department of Health (MDH) to report annually on health care spending attributable to select chronic conditions and smoking exposure, including by producing estimates of actual health care spending, ten-year projections, and a comparison of estimated spending against projections. In cases where actual spending falls short of projections, MDH was directed to estimate the portion of this difference attributable to state-administered health care programs (Minnesota Statutes, Chapter 62U.10, subd. 5-8). This situation would trigger a transfer of funds of up to \$50 million annually from the General Fund to the Health Care Access Fund.

Although statewide health care spending attributable to chronic conditions and smoking exposure fell below projected levels in the 2015 data year by roughly \$22 million, spending attributable to state-administered programs, including Medicaid and the State Employee Group Insurance Program, actually grew faster than initially expected. As a result, our analysis of data from 2015 does not trigger a transfer as described in statute in the coming fiscal year.

We had the opportunity earlier this fall to present this information to staff at your agency and appreciated their feedback on the current analysis and future work. More comprehensive results from this year's analysis, along with documentation regarding research methods, data limitations, and actuarial certification of the approach, are included in the accompanying report to the Legislature. The same material will be accessible online: www.health.state.mn.us/healthconomics.

If you or your staff have any questions regarding this report, please direct them to Stefan Gildemeister, Director of the Health Economics Program, at stefan.gildemeister@state.mn.us or 651-201-3554.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jan K. Malcolm'.

Jan K. Malcolm
Commissioner

cc: Angela Vogt, Executive Budget Coordinator, MMB Travis Bunch, Executive Budget Officer, MMB

Appendix 2: Actuarial Certification

Willis Towers Watson 

July 3, 2018

Mr. Stefan Gildemeister
Director, Health Economics Program
Minnesota Department of Health
85 East Seventh Place Suite 220
Saint Paul, MN 55101

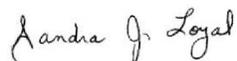
Subject: Actuarial Certification

Dear Stefan:

Willis Towers Watson has provided an actuarial review of the final estimates of the cost and prevalence of selected chronic conditions and health risk factors in Minnesota developed by Mathematica Policy Research (Mathematica) for the Minnesota Department of Health (MDH). These estimates include diabetes, hypertension, dementia, smoking exposure, and obesity for individuals of all ages, as well as all chronic conditions for older individuals. Our review considered the tables that Mathematica provided, presenting prevalence and cost estimates for 2015 and projections through 2025. Our review also included examination of supporting documentation, discussion of data sources and methodologies, and requests for additional documentation and clarification.

Based on this review, we find the data sources and methodologies used are valid and reasonable. We further certify that the cost and prevalence estimates are reasonable based on our review of the data used, the methodologies employed, and health care spending trends observed nationally.

Regards,



Sandra J. Loyal, FSA, MAAA
Willis Towers Watson

cc: Deborah Chollet, David Jones – Mathematica Policy Research
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Appendix 3: Data and Limitations

The analysis MDH was directed to perform is unique in the context of research conducted by other states, expansive in that it required developing estimates and projections across a range of conditions and risk factors, and technically demanding. To help the readers weigh the evidence for policy-making purposes or use in public health planning, this section provides context about the data that were used, information about high-level assumptions that were made along the way, and detail about potential limitations that are associated with this study. Because relevant technical information is provided throughout the report and the methodology is provided separately in Appendix 6, this section is intended to provide high-level, summary information.

This section does not focus on alternative ways of measuring the impact of chronic disease in Minnesota or on identifying strategies to affect the prevalence or the treatment cost of specific conditions; it is intended to provide detail on the study at hand for the specific measurement focus MDH was directed to pursue.

Generally speaking, developing an estimate of the costs of medical services and prescription drugs associated with specific conditions or risk factors requires answering three questions:

1. How many people in Minnesota have a particular condition?
2. How much in health care spending is delivered to patients with that conditions?
3. What portion of spending devoted to a patient's care is unrelated to the condition in question?¹

In addition, to estimating future health care spending, analysts have to determine what is known about expected demographic change (chronic disease prevalence increases with age) and change in the level of health care prices, or medical inflation. Lastly, to assess the role of state public payers of health care spending, researchers need to have information on the prevalence of disease among beneficiaries of those programs or the age distribution in those programs relative to others with the disease.

Because there is no single data system to address these questions for the four chronic conditions that are the focus of this study and smoking exposures, the research team had to

¹ The last question is about making sure estimates attributable to specific chronic conditions control for, or exclude, health care spending that is unrelated to the treatment of a specific condition. Conversely, the aim was to identify all costs for the treatment of a specific condition and all comorbidities that developed as a direct result of the condition, e.g., hypoglycemia for diabetics.

rely on a range of data systems. The following data were matched to specific aspects of the modeling and estimation tasks:

- The **Minnesota All Payer Claims Data (MN APCD)**, which is system that aggregates health care transaction data across public and private payers in Minnesota, was used to identify persons with each chronic condition (diabetes, hypertension, dementia and all chronic conditions for persons 60 year or older), calculate person-level medical and prescription drug costs for these conditions, and control for unrelated costs.²
- The **Household Component of the Medical Expenditure Panel Survey (MEPS-HC)** was used to analyze conditions that are not directly observable in the MN APCD (obesity, smoking exposure) and, where applicable, to develop estimates for populations for all conditions of interest that are not part of the MN APCD (the uninsured, Tricare enrollees, and spending for people who rely on care from the Veterans Administration facilities and the Indian Health Services).³ Depending on the condition, either data from the national, the Midwest or Minnesota sample was used, adjusted to reflect Minnesota's distribution of health insurance coverage. Data is also benchmarked to the MN APCD.
- A pooled sub-sample of the national MEPS is linked to the **Adult Sample of the National Health Interview Survey (NHIS)** is obtain information on past smoking status, particularly the time since members in the sample have quit smoking.⁴
- Minnesota's **Behavioral Risk Factor Surveillance Survey (BRFSS)** and the **National Health and Nutrition Examination Survey (NHANES)** were used to develop prevalence estimates of obesity in Minnesota.⁵

² The Minnesota All Payer Claims data, funded by Minnesota's provider tax, is the most comprehensive data system for health care delivery in Minnesota. It collects information from all major public and private payers of health care services delivered to Minnesota residents, covering the spectrum of the delivery system and tracking de-identified information over time and across the state's geography. Data from the MN APCD have been available since calendar year 2009. Use of the data is limited by the legislature in MN Statutes 62U.04, subd. 11 to specific activities conducted by MDH. Minnesota is one of 16 or so states with an active APCD (<https://www.apcdouncil.org/state/map>). Additional information on the Minnesota All Payer Claims Data, a project of the Minnesota Department of Health (MDH), is available online: <http://www.health.state.mn.us/healthreform/allpayer/index.html>

³ Additional information on the Household Component of the Medical Expenditure Panel Survey, a project of the Agency for Healthcare Research and Quality (AHRQ), is available online: https://meps.ahrq.gov/survey_comp/household.jsp

⁴ Additional information on the National Health Interview Survey, a project of the Centers for Disease Control and Prevention (CDC), is available online: <https://www.cdc.gov/nchs/nhis/index.htm>

⁵ Additional information on the Behavioral Risk Factor Surveillance Survey (BRFSS) and the National Health and Nutrition Examination Survey, both projects of the CDC, is available online: <https://www.cdc.gov/brfss/index.html> and <https://www.cdc.gov/nchs/nhanes/index.htm>

- Demographic information from the **American Community Survey (ACS)** and the **Minnesota State Demographic Center** was used to weight estimates to Minnesota population statistics and health insurance coverage distribution and as benchmarks for age/sex cohorts. The ACS was also used to capture household income effects on service use by mapping MN APCD zip codes to U.S. Census-defined Zip Code Tabulation Areas (ZCTA).⁶
- Lastly, expected price trends were computed using data from the **Consumer Price Index for Urban Consumers (CPI-U)** and the **National Health Expenditure Accounts (NHEA)**.⁷

Although an interdisciplinary team of MDH researchers, analysts at Mathematica Policy Research and external content experts contributed for over more than a year to the development of a robust methodology for estimating condition-attributable spending, the resulting estimates, as is true for all empirical investigations, remain associated with a number of methodological challenges and potential limitations. They derive from data available for the study and assumptions that were made in the process of developing estimates. Many of the key challenges and limitations presented below are discussed in greater detail in Appendix 6, where we present a detailed methodology for the estimation effort, including considerations for choosing among alternative methodological options.

Controlling for unrelated health care spending: Key for the analysis was the decision to identify which health conditions are related or the direct outcome of one of the four chronic condition and smoking exposure. Much of the existing related literature, as noted in Appendix 5, either does not control for comorbidities or uses somewhat crude approaches to do so. For this study, Mathematica Policy Research, MDH’s analytics vendor, considered evidence from some of the most robust empirical studies and sought additional clinical expertise to identify unrelated comorbidities. Nevertheless, there is currently no consensus among researchers and clinicians we are aware of about how to identify health care services for the treatment of specific conditions and related diseases.

Use of administrative claims data to identify health care spending: The availability of health care claims data from transactions between health insurers and providers for Minnesota

⁶ Additional information on the American Community Survey, a project of the U.S. Census Bureau, is available online: <https://www.census.gov/programs-surveys/acs/>. Additional information on data from the Minnesota Demographic Center is as well available online: <https://mn.gov/admin/demography/>.

⁷ Additional information on the Consumer Price Index (CPI-U), a project of the U.S. Bureau of Labor Statistics (BLS) and the National Health Expenditure Accounts (NHEA), a project of the U.S. Centers for Medicare & Medicaid Services, is available online: <https://www.bls.gov/cpi/> and <https://www.cms.gov/Research-Statistics-Data-andSystems/Statistics-Trends-and-Reports/NationalHealthExpendData/index.html>

residents collected, in the MN APCD, was what made this study possible in the first place. Nevertheless, the data are associated with a number of potential limitations.

- Though our analysis captures, where possible, spending for individuals who are not routinely found in the MN APCD (e.g., Tricare, the uninsured, and people who primarily rely on care through the Veterans Administration facilities and the Indian Health Service), health care claims data typically only include costs for health care services that represent covered insurance benefits. Costs for denied claims, services received outside of insurer provider networks (like, for example, assisted living costs for people with dementia), and contractual withholds are not captured in the data. Also not included are expenditures for over-the-counter medication, complementary or alternative therapies, spiritual healing or traditional (ethnic) medicine. Conversely, claims capture expenditure data that are not payments for services rendered, but relate to support for medical education or delivery of free or discounted care. As such, estimates could reflect an over- or undercount of actual spending.
- By definition, health care claims only capture costs of care for patients who seek health care services.⁸
- Estimates of prevalence for specific conditions are, again by definition, limited to patients who present for health care and whose condition was diagnosed and recorded in claims data. Where there are barriers to making a diagnosis – conducting expensive tests, for example – or where the diagnosis will not affect the course of treatment, the number of patients identified as having a certain condition will be undercounted.
- Due to changes in coding practices over time, health care costs for a given set of conditions or services can appear to have changed solely as a result of the extent and scope of provider data submission to payers. This could be resulting from attempts over time to optimize payments, the learning curve associated with coding practices, or changes in guidelines issued by payers to reduce unintended consequences associated with certain billing practices.

Use of MEPS data as proxy for Minnesota health care spending: Key methodological challenges associated with the MEPS relate to the fact that it does not capture health care spending for individuals who are institutionalized (either in long-term care facilities or by the Justice system). Although beginning approaches exist to adjust estimates for this gap, they have not been developed for state samples; no related adjustment were made for this study, likely resulting in underestimates for obesity and tobacco. In addition, the MEPS records diagnosis information only to the three-digit level, thereby foregoing precision associated with the more

⁸ Cost estimates for diabetes include only persons with a medical claim and at least one primary or secondary diagnosis of diabetes. However, many people with diabetes might be undiagnosed, and many more might have prediabetes, which does not correspond to a diagnostic code in medical claims data.

detailed coding under the system of International Classification of Diseases, version 9 (ICD-9). Further, unlike the MN APCD, the MEPS is a sample with limited number of observations in certain age/sex and disease categories, particularly at the regional and state level (see additional detail in the discussion on tobacco and obesity estimates).

Bias in the Behavioral Risk Factor Surveillance System: Like all surveys, the BRFSS is subject to a range of biases, including selection bias that might affect the survey's generalizability to the total Minnesota population, and response and recall bias, affecting the precision of obesity and tobacco prevalence estimates.

Use of the Johns Hopkins Adjusted Clinical Group (ACG) and Expanded Diagnosis Cluster System for chronic disease estimation: Identifying the presence of disease on the basis of diagnosis codes and prescription drugs in claims data involves making a host of decisions concerning how to interpret the presence and combination of codes. For the identification of chronic disease among persons age 60 or older, our analytics vendor used ACG-flagged EDCs augmented with additional conditions outside of the ACG system that are generally viewed as chronic. To the extent that the black-box assignment differs from alternative choices, estimates could be subject to bias in either direction.

Estimates of smoking exposure and obesity: Unlike the other conditions that were the focus of this study, smoking exposure and obesity was not directly observable in the MN APCD. That is, claims data do not consistently record diagnostic information permitting clear identification of either risk factors. Because of this spending attributed to obesity and smoking exposure was estimated using relative cost factors derived from the MEPS public use data adjusted to the Midwest population sample. This approach assumes that the relative probability of service use and the relative cost of acute care services in Minnesota for smoking exposure and obesity is equal to the average (by age and sex) among all Midwestern states, and that long-term care costs in the MN APCD because of obesity or smoking exposure are higher in the same proportion as acute care costs.⁹ Should this alignment not exist, resulting estimates could have an upward or downward bias.

Both estimates are further characterized by likely high statistical error that derives from the small number of observations available to the estimation process. While all estimates in this report are associated with estimation error, it is higher for estimates that rely on fewer observations, like smoking exposure and obesity.

⁹ As noted above, because estimating smoking exposure was limited to a single survey question in MEPS about the (adult) respondent's current smoking status, the analysis also used linked MEPS and NHIS data to improve precision of estimates.

Finally, cost estimates of smoking exposure are further limited by the following factors:

- Like elsewhere, this research was not able to account for the impact of health care spending from forms of smoking exposure other than tobacco use, likely yielding artificially high numbers of “non-smokers;”
- The data used to estimate current smoking, former smoking, and secondhand smoke exposure did not assess actual exposure to secondhand smoke exposure. Instead, “living with a smoker” was used as a proxy. While this helps to account for some individuals exposed to secondhand smoke, there are others who do not live with a smoker but are regularly exposed to secondhand smoke. This results in an underestimate of the impact of smoking exposure;
- Modeling revealed substantial challenges with predicting low-cost cases or outliers at the low end of the cost distribution. As a result, in those cases cost estimates were not stable enough to be reported for this study. The smoking-attributable estimates exclude respective health care spending for children below age 18 and adults older than 65, creating a downward bias of total smoking exposure attributable estimates.¹⁰

Unobserved factors that affect projected health care spending: The estimates in this study control for a large number of diagnoses, as well as a resident’s age and gender. However, various characteristics that might affect expenditures—such as race and ethnicity—are not observed. As in any analysis of this type, failure to control for an unobserved characteristic that is systematically related the outcome variable can result in projections that are too high or too low, if that characteristic changes over time. The projections also do not account for other changes that could occur over the course of a decade—including changes in disease prevalence (other than associated with changes in the age and sex distribution of the population); health insurance coverage (other than aging into Medicare); changes in medical technology that affect cost; the introduction of new drugs that can affect cost; price increases for existing drugs, generic or otherwise, that are outside of ordinary patterns of price inflation; and current high-cost drugs going off-patent. Although such “steady state” assumptions are usual when making projections, they can lead to significant error especially in later years of the projection period.

¹⁰ This is also true for obesity-related spending estimates for children under age 10 and adults 65 years of age or older.

Appendix 4.1: Detailed Data Table – Diabetes

Prevalence of diabetes among all Minnesotans: 2009, 2014, and 2015

	2009		2014		2015		Percent change in the number of persons with diabetes (2009-2015)
	Number of persons with diabetes (000s)	Percent of persons with diabetes within age group	Number of persons with diabetes (000s)	Percent of persons with diabetes within age group	Number of persons with diabetes (000s)	Percent of persons with diabetes within age group	
All Minnesotans	292.19	5.67%	336.30	6.23%	342.98	6.32%	17.38%
Children (0-17)	3.56	0.30%	4.16	0.34%	4.26	0.35%	19.66%
Adults (18-64)	167.28	5.01%	181.82	5.35%	182.14	5.35%	8.88%
Adults Age 18-44	41.93	2.18%	42.49	2.21%	46.06	2.39%	9.85%
Adults Age 45-64	125.36	8.83%	139.33	9.46%	136.08	9.22%	8.55%
Seniors (65+)	121.35	18.74%	150.32	19.38%	156.58	19.49%	29.03%

Source: Mathematica Policy Research analysis of claims and encounter data from the Minnesota All-Payer Claims Database v.20 and the Medical Expenditure Panel Survey. Estimates are weighted to population and coverage estimates reported in the Minnesota sample of the American Community Survey and the Minnesota Health Access Survey.

Note: Percent change estimates may reflect rounding error.

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Estimated cost of health care among Minnesotans with diabetes: 2009, 2014, and 2015

	Total spending				Spending attributed to diabetes		
	Total spending, all persons (\$ billions)	Per person total spending, all persons	Per person total spending among persons with diabetes	Total spending attributable to diabetes (\$ billions)	Per person per year spending associated with diabetes, persons with diabetes	Percent of total spending attributed to diabetes among persons with diabetes	Percent of total spending attributed to diabetes
2009							
Total	\$26.068	\$5,057	\$17,615	\$1.111	\$3,803	21.46%	4.21%
Medical	\$22.008	\$4,269	\$14,525	\$0.892	\$3,054	20.86%	4.02%
Pharmacy	\$4.060	\$788	\$3,090	\$0.219	\$749	24.28%	5.22%
2014							
Total	\$30.722	\$5,691	\$18,246	\$1.224	\$3,641	19.73%	3.95%
Medical	\$25.762	\$4,772	\$14,579	\$0.880	\$2,618	17.74%	3.40%
Pharmacy	\$4.960	\$919	\$3,667	\$0.344	\$1,023	27.70%	6.71%
2015							
Total	\$33.19	\$6,120	\$19,507	\$1.287	\$3,751	19.25%	3.87%
Medical	\$27.46	\$5,063	\$15,063	\$0.881	\$2,569	17.10%	3.21%
Pharmacy	\$5.73	\$1,057	\$4,444	\$0.406	\$1,183	26.51%	7.04%
Percent change (2009-2015)							
Total	27.32%	21.02%	10.74%	15.84%	-1.37%	-2.21%	-0.34%
Medical	24.77%	18.60%	3.70%	-1.23%	-15.88%	-3.76%	-0.81%
Pharmacy	41.13%	34.14%	43.82%	85.39%	57.94%	2.23%	1.82%

Source: Mathematica Policy Research analysis of the Minnesota All-Payer Claims Database v. 20, the Minnesota population sample of the American Community Survey, and the Minnesota Health Access Survey.

Note: Percent change estimates may reflect rounding error. Differences in percentages are calculated as a percentage point change.

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Estimated per person per year spending attributable to diabetes in Minnesota by age group, persons with diabetes: 2009, 2014, and 2015

	All persons	Children (0-17)	Adults (18-64)	Seniors (65 plus)
2009				
Total	\$3,803	\$3,504	\$3,644	\$4,031
Medical	\$3,054	\$2,147	\$2,744	\$3,508
Pharmacy	\$749	\$1,357	\$900	\$523
2014				
Total	\$3,641		\$3,720	\$3,583
Medical	\$2,618	\$2,494	\$2,348	\$2,947
Pharmacy	\$1,023		\$1,372	\$636
2015				
Total	\$3,751		\$3,894	\$3,635
Medical	\$2,569	\$3,025	\$2,300	\$2,868
Pharmacy	\$1,183		\$1,593	\$767
Percent change (2009-2015)				
Total	-1.37%		6.86%	-9.82%
Medical	-15.88%	40.89%	-16.18%	-18.24%
Pharmacy	57.94%		77.00%	46.65%

Source: Mathematica Policy Research analysis of claims and encounter data from the Minnesota All-Payer Claims Database v. 20 and the Medical Expenditure Panel Survey. Estimates are weighted to population and coverage estimates reported in the Minnesota sample of the American Community Survey and the Minnesota Health Access Survey.

Note: Percent change estimates may reflect rounding error. Attributed pharmacy spending for children in 2014 and 2015 could not be estimated.

Appendix 4.2: Detailed Data Table – Hypertension

Prevalence of hypertension among all Minnesotans: 2009, 2014, and 2015

	2009		2014		2015		Percent change in the number of persons with hypertension (2009-2015)
	Number of persons with hypertension (000s)	Percent of persons with hypertension within age group	Number of persons with hypertension (000s)	Percent of persons with hypertension within age group	Number of persons with hypertension (000s)	Percent of persons with hypertension within age group	
All Minnesotans	915.03	17.75%	1,041.48	19.29%	1,062.39	19.59%	16.10%
Children (0-17)	10.44	0.89%	18.25	1.49%	18.81	1.54%	80.17%
Adults (18-64)	521.66	15.62%	550.63	16.21%	553.06	16.26%	6.02%
Adults Age 18-44	111.06	5.78%	114.35	5.95%	120.98	6.28%	8.93%
Adults Age 45-64	410.60	28.91%	436.28	29.61%	432.08	29.28%	5.23%
Seniors (65+)	382.92	59.15%	472.59	60.94%	490.52	61.05%	28.10%

Source: Mathematica Policy Research analysis of claims and encounter data from the Minnesota All-Payer Claims Database v. 20 and the Medical Expenditure Panel Survey. Estimates are weighted to population and coverage estimates reported in the Minnesota sample of the American Community Survey and the Minnesota Health Access Survey.

Note: Percent change estimates may reflect rounding error.

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Estimated cost of health care among Minnesotans with hypertension: 2009, 2014, and 2015

	Total spending			Spending attributed to hypertension			
	Total spending, all persons (\$ billions)	Per person total spending, all persons	Per person total spending among persons with hypertension	Total spending attributable to hypertension (\$ billions)	Per person per year spending associated with hypertension, persons with hypertension	Percent of total spending attributed to hypertension among persons with hypertension	Percent of total spending attributed to hypertension
2009							
Total	\$26.068	\$5,057	\$13,555	\$4.072	\$4,450	32.60%	15.47%
Medical	\$22.008	\$4,269	\$11,450	\$3.450	\$3,771	32.67%	15.59%
Pharmacy	\$4.060	\$788	\$2,105	\$0.622	\$680	32.18%	14.84%
2014							
Total	\$30.722	\$5,691	\$14,454	\$4.459	\$4,281	29.38%	14.32%
Medical	\$25.762	\$4,772	\$12,141	\$3.676	\$3,530	28.88%	14.16%
Pharmacy	\$4.960	\$919	\$2,313	\$0.783	\$752	32.01%	15.16%
2015							
Total	\$33.190	\$6,120	\$15,436	\$4.632	\$4,360	28.18%	13.90%
Medical	\$27.457	\$5,063	\$12,693	\$3.737	\$3,517	27.67%	13.56%
Pharmacy	\$5.733	\$1,057	\$2,743	\$0.895	\$842	30.52%	15.54%
Percent change (2009-2015)							
Total	27.32%	21.02%	13.88%	13.75%	-2.02%	-4.42%	-1.57%
Medical	24.76%	18.60%	10.86%	8.32%	-6.74%	-5.00%	-2.03%
Pharmacy	41.21%	34.14%	30.31%	43.89%	23.82%	-1.66%	0.70%

Source: Mathematica Policy Research analysis of the Minnesota All-Payer Claims Database v. 20, the Minnesota population sample of the American Community Survey, and the Minnesota Health Access Survey.

Note: Percent change estimates may reflect rounding error. Differences in percentages are calculated as a percentage point change.

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Estimated per person per year spending attributable to hypertension in Minnesota by age group, persons with hypertension: 2009, 2014, and 2015

	All persons	Children (0-17)	Adults (18-64)	Seniors (65+)
2009				
Total	\$4,450	\$3,916	\$3,547	\$5,417
Medical	\$3,771	\$3,355	\$2,808	\$4,843
Pharmacy	\$680	\$560	\$739	\$574
2014				
Total	\$4,281	\$3,940	\$3,587	\$5,102
Medical	\$3,530	\$3,151	\$2,760	\$4,441
Pharmacy	\$752	\$788	\$827	\$662
2015				
Total	\$4,360	\$4,519	\$3,867	\$4,909
Medical	\$3,517	\$3,905	\$2,906	\$4,191
Pharmacy	\$842	\$614	\$961	\$717
Percent change (2009-2015)				
Total	-2.02%	15.40%	9.02%	-9.38%
Medical	-6.74%	16.39%	3.49%	-13.46%
Pharmacy	23.82%	9.64%	30.04%	24.91%

Source: Mathematica Policy Research analysis of claims and encounter data from the Minnesota All-Payer Claims Database v. 20 and the Medical Expenditure Panel Survey. Estimates are weighted to population and coverage estimates reported in the Minnesota sample of the American Community Survey and the Minnesota Health Access Survey.

Note: Percent change estimates may reflect rounding error.

Appendix 4.3: Detailed Data Table – Dementia (Ages 18 Years or Older)

Prevalence of dementia among Minnesotans age 18 or older: 2009, 2014, and 2015

	2009		2014		2015		Percent change in the number of persons with dementia, 2009-2015
	Number of persons with dementia (000s)	Percent of persons with dementia within age group	Number of persons with dementia (000s)	Percent of persons with dementia within age group	Number of persons with dementia (000s)	Percent of persons with dementia within age group	
All Minnesotans ages 18+	45.81	1.30%	53.80	1.39%	62.04	1.57%	35.43%
Adults (18-64)	5.76	0.20%	6.62	0.21%	7.07	0.23%	22.71%
Adults Age 18-44	1.14	0.07%	1.04	0.06%	1.76	0.10%	54.53%
Adults Age 45-64	4.62	0.36%	5.58	0.41%	5.31	0.39%	14.87%
Seniors (65+)	40.05	6.19%	47.18	6.08%	54.97	6.84%	37.26%

Source: Mathematica Policy Research analysis of claims and encounter data from the Minnesota All-Payer Claims Database v. 20. Estimates are weighted to population and coverage estimates reported in the Minnesota sample of the American Community Survey and Minnesota Health Access Survey.

Note: Percent change estimates may reflect rounding error.

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Estimated cost of health care among Minnesotans age 18 or older with dementia: 2009, 2014, and 2015

	Total spending, all persons (\$ billions)	Per person total spending, all persons	Per person total spending among persons with dementia	Total spending attributed to dementia (\$ billions)	Per person per year spending attributed to dementia, persons with dementia	Percent of total spending attributed to dementia among persons with dementia	Percent of total spending attributed to dementia, all persons ^a
2009							
Total	\$22.680	\$6,416	\$29,775	\$0.190	\$4,158	14.23%	0.89%
Medical	\$19.023	\$5,381	\$26,614	\$0.174	\$3,797	14.55%	0.97%
Pharmacy	\$3.658	\$1,035	\$3,161	\$0.017	\$361	11.52%	0.46%
2014							
Total	\$26.795	\$6,944	\$30,843	\$0.223	\$4,148	13.23%	0.89%
Medical	\$22.281	\$5,774	\$27,831	\$0.211	\$3,915	13.83%	1.01%
Pharmacy	\$4.515	\$1,170	\$3,012	\$0.013	\$233	7.61%	0.29%
2015							
Total	\$28.838	\$7,319	\$32,240	\$0.215	\$3,470	10.79%	0.74%
Medical	\$23.638	\$5,999	\$28,788	\$0.204	\$3,287	11.45%	0.86%
Pharmacy	\$5.200	\$1,320	\$3,452	\$0.011	\$183	5.30%	0.22%
Percent change (2014-2015)							
Total	27.15%	14.07%	8.28%	13.16%	-16.55%	-3.44%	-0.15%
Medical	24.26%	11.48%	8.17%	17.24%	-13.43%	-3.10%	-0.11%
Pharmacy	42.15%	27.54%	9.21%	-35.29%	-49.31%	-6.22%	-0.24%

Source: Mathematica Policy Research analysis of the Minnesota All-Payer Claims Database v. 20, the Minnesota population sample of the American Community Survey, and the Minnesota Health Access Survey.

Note: Percent change estimates may reflect rounding error. Differences in percentages are calculated as a percentage point change.

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Estimated per person per year spending attributed to dementia among Minnesotans age 18 or older with dementia, by age group: 2009, 2014, and 2015

	All persons	Adults age 18-64	Seniors age 65 or older
2009			
Total	\$4,158	\$9,793	\$3,348
Medical	\$3,797	\$9,095	\$3,036
Pharmacy	\$361	\$698	\$312
2014			
Total	\$4,148	\$9,746	\$3,363
Medical	\$3,915	\$9,178	\$3,177
Pharmacy	\$233	\$568	\$185
2015			
Total	\$3,470	\$10,534	\$2,562
Medical	\$3,287	\$9,789	\$2,451
Pharmacy	\$183	\$745	\$111
Percent change (2014-2015)			
Total	-16.55%	7.57%	-23.48%
Medical	-13.43%	7.63%	-19.27%
Pharmacy	-49.31%	6.73%	-64.42%

Source: Mathematica Policy Research analysis of claims and encounter data from the Minnesota All-Payer Claims Database v. 20. Estimates are weighted to population and coverage estimates from the Minnesota sample of the American Community Survey and the Minnesota Health Access Survey.

Note: Percent change estimates may reflect rounding error.

Appendix 4.4: Detailed Data Table – Chronic Disease for Persons Age 60+

Prevalence of chronic conditions among all Minnesotans age 60 and older: 2009, 2014, and 2015

	2009		2014		2015		Percent change in the number of persons with chronic conditions (2009-2015)
	Number of persons with chronic condition (000s)	Percent of persons with chronic conditions within age group	Number of persons with chronic condition (000s)	Percent of persons with chronic conditions within age group	Number of persons with chronic condition (000s)	Percent of persons with chronic conditions within age group	
All Minnesotans (60+)	695.13	77.83%	877.96	81.17%	898.14	81.21%	29.20%
Age 60-64	181.21	74.65%	237.14	77.46%	231.11	76.39%	27.54%
Age 65 - 74	244.46	73.97%	337.06	78.47%	355.35	78.74%	45.36%
Age 75+	269.45	84.23%	303.76	87.78%	311.68	88.51%	15.67%

Source: Mathematica Policy Research analysis of claims and encounter data from the Minnesota All-Payer Claims Database v. 20. Estimates are weighted to population and coverage estimates reported in the Minnesota sample of the American Community Survey and Minnesota Health Access Survey.

Note: Percent change estimates may reflect rounding error.

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Estimated cost of health care among Minnesotans age 60 and older with a chronic condition: 2009, 2014, and 2015

	Total spending			Spending attributed to chronic conditions			
	Total spending, all persons (\$ billions)	Per person total spending, all persons	Per person total spending among persons with chronic condition	Total spending attributable to chronic conditions (\$ billions)	Per person per year spending associated with chronic conditions, persons with chronic conditions	Percent of total spending attributed to chronic conditions among persons with chronic conditions	Percent of total spending attributed to chronic conditions
2009							
Total	\$9.099	\$10,187	\$12,488	\$7.212	\$10,376	83.01%	78.73%
Medical	\$7.687	\$8,607	\$10,712	\$6.643	\$9,556	89.12%	86.37%
Pharmacy	\$1.411	\$1,580	\$1,775	\$0.570	\$820	46.12%	38.76%
2014							
Total	\$12.089	\$11,176	\$13,261	\$9.794	\$11,156	84.24%	80.69%
Medical	\$10.216	\$9,444	\$11,317	\$8.800	\$10,024	88.70%	86.16%
Pharmacy	\$1.873	\$1,731	\$1,944	\$0.994	\$1,132	58.26%	51.65%
2015							
Total	\$12.51	\$11,311	\$13,617	\$9.92	\$11,048	79.31%	79.32%
Medical	\$10.41	\$9,412	\$11,164	\$8.79	\$9,789	85.71%	84.45%
Pharmacy	\$2.10	\$1,899	\$2,453	\$1.13	\$1,259	50.19%	53.86%
Percent change (2009-2015)							
Total	37.49%	11.03%	9.04%	37.55%	6.48%	-3.70%	0.59%
Medical	35.42%	9.35%	4.22%	32.32%	2.44%	-3.41%	-1.92%
Pharmacy	48.83%	20.19%	38.20%	98.25%	53.54%	4.07%	15.10%

Source: Mathematica Policy Research analysis of the Minnesota All-Payer Claims Database v. 20, the Minnesota population sample of the American Community Survey, and the Minnesota Health Access Survey.

Note: Percent change estimates may reflect rounding error. Differences in percentages are calculated as a percentage point change.

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Estimated per person per year spending attributable to chronic conditions in Minnesota for age 60 and older, persons with chronic conditions: 2009, 2014, and 2015

	All persons	Age 60-64	Age 65 - 74	Age 75+
2009				
Total	\$10,376	\$9,867	\$8,992	\$11,973
Medical	\$9,556	\$8,655	\$8,188	\$11,403
Pharmacy	\$820	\$1,212	\$805	\$569
2014				
Total	\$11,156	\$10,587	\$9,652	\$13,269
Medical	\$10,024	\$8,915	\$8,478	\$12,604
Pharmacy	\$1,132	\$1,672	\$1,174	\$665
2015				
Total	\$11,048	\$10,176	\$9,562	\$13,388
Medical	\$9,789	\$8,465	\$8,266	\$12,506
Pharmacy	\$1,259	\$1,711	\$1,296	\$883
Percent change (2009-2015)				
Total	6.48%	3.13%	6.34%	11.82%
Medical	2.44%	-2.20%	0.95%	9.67%
Pharmacy	53.54%	41.17%	60.99%	55.18%

Source: Mathematica Policy Research analysis of claims and encounter data from the Minnesota All-Payer Claims Database v. 20. Estimates are weighted to population and coverage estimates from the Minnesota sample of the American Community Survey and the Minnesota Health Access Survey.

Note: Percent change estimates may reflect rounding error.

Appendix 4.5: Detailed Data Table – Obesity (Ages 10 to 64)

Prevalence of obesity among all Minnesotans ages 10-64: 2009, 2014, and 2015

	2009		2014		2015		Percent change in the number of persons that are obese, 2009-2015
	Number of persons that are obese (000s)	Percent of persons that are obese within age group	Number of persons that are obese (000s)	Percent of persons that are obese within age group	Number of persons that are obese (000s)	Percent of persons that are obese within age group	
All Minnesotans (ages 10 and older)	919.2	23.6%	1,000.3	25.2%	872.9	21.9%	-5.0%
Children (10-17)	61.3	11.0%	73.8	12.9%	82.1	14.3%	33.9%
Adults (18-64)	857.9	25.7%	926.5	27.3%	790.8	23.2%	-7.8%
Adults Age 18-44	451.9	23.5%	451.9	23.5%	374.7	19.5%	-17.1%
Adults Age 45-64	406.0	28.6%	474.6	32.2%	416.1	28.2%	2.5%

Source: Mathematica Policy Research estimates from the Minnesota Behavioral Risk Factor Surveillance System. Estimates are weighted to population and coverage estimates reported in the Minnesota population sample of the American Community Survey and the Minnesota Health Access Survey.

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Estimated cost of health care among Minnesotans ages 10-64 with obesity: 2009, 2014 and 2015

	Total spending		Spending attributed to obesity		
	Total spending, all persons (\$ billions)	Per person total spending, all persons	Total spending attributed to obesity (\$ billions)	Per person per year spending attributed to obesity, persons that are obese	Percent of total spending attributed to obesity
2009					
Total	\$18.026	\$4,625	\$0.345	\$376	1.92%
Medical	\$15.132	\$3,882	\$0.226	\$246	1.50%
Pharmacy	\$2.894	\$743	\$0.119	\$129	4.10%
2014					
Total	\$20.247	\$5,100	\$0.451	\$451	2.23%
Medical	\$16.638	\$4,191	\$0.231	\$231	1.39%
Pharmacy	\$3.609	\$909	\$0.220	\$220	6.10%
2015					
Total	\$21.857	\$5,495	\$0.310	\$355	1.42%
Medical	\$17.607	\$4,427	\$0.134	\$153	0.76%
Pharmacy	\$4.249	\$1,068	\$0.176	\$201	4.14%
Percent change (2009-2015)					
Total	21.2%	18.8%	-10.3%	-5.5%	-26.0%
Medical	16.4%	14.0%	-40.9%	-37.7%	-49.2%
Pharmacy	46.8%	43.9%	48.0%	55.9%	0.8%

Source: Mathematica Policy Research analysis of the 2009-2015 Medical Expenditure Panel Survey. Estimates are weighted to population and coverage estimates reported in the Minnesota population sample of the American Community Survey and the Minnesota Health Access Survey, and benchmarked to the Minnesota APCD v.20.

Note: Percentage of total spending estimates are calculated on expected values of total spending and spending attributed to obesity; total expected spending may vary slightly from actual total spending. Percent change estimates may reflect rounding error. Differences in percentages are calculated as a percentage point change.

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Estimated per person per year spending attributed to obesity in Minnesota among obese persons ages 10-64, by age group: 2009, 2014, and 2015

	All persons	Children age 10-17	Adults (18-64)
2009			
Total	\$376	\$493	\$367
Medical	\$246	\$183	\$251
Pharmacy	\$129	\$309	\$116
2014			
Total	\$451	\$421	\$453
Medical	\$231	\$34	\$246
Pharmacy	\$220	\$387	\$207
2015			
Total	\$355	\$243	\$366
Medical	\$153	\$25	\$167
Pharmacy	\$201	\$218	\$200
Percent change (2009-2015)			
Total	-5.59%	-50.71%	-0.27%
Medical	-37.80%	-86.34%	-33.47%
Pharmacy	55.81%	-29.45%	72.41%

Source: Mathematica Policy Research analysis of the 2009-2015 Medical Expenditure Panel Survey. Estimates are weighted to population and coverage estimates reported in the Minnesota population sample of the American Community Survey and the Minnesota Health Access Survey, and benchmarked to the Minnesota APCD v.20.

Note: Percent change estimates may reflect rounding error.

Appendix 4.6: Detailed Data Table – Projected Medical Service and Pharmacy Spending, 2009 and 2015-2025 (millions)

Total Spending

	2009	2015p	2016p	2017p	2018p	2019p	2020p	2021p	2022p	2023p	2024p	2025p
Total attributed spending (millions)												
Diabetes (all ages)	\$1,111.2	\$1,416.4	\$1,487.8	\$1,530.1	\$1,595.5	\$1,663.6	\$1,732.3	\$1,807.1	\$1,885.9	\$1,967.8	\$2,054.9	\$2,148.4
Hypertension (all ages)	\$4,072.3	\$5,305.2	\$5,562.0	\$5,729.1	\$5,988.7	\$6,264.7	\$6,543.7	\$6,846.7	\$7,166.8	\$7,499.9	\$7,852.7	\$8,231.3
Dementia (age 18 or older)	\$190.5	\$255.7	\$270.4	\$278.1	\$292.2	\$307.5	\$323.1	\$339.9	\$357.8	\$376.3	\$395.9	\$416.9
Obesity (age 10 to 64)	\$345.2	\$422.9	\$435.0	\$438.2	\$449.9	\$460.2	\$470.4	\$481.5	\$492.9	\$504.7	\$517.7	\$531.5
Smoking exposure (age 18-64)	\$109.4	\$180.5	\$192.8	\$188.3	\$194.6	\$200.3	\$206.1	\$212.4	\$219.1	\$226.2	\$234.0	\$242.4
<i>Summary:</i>												
Total	\$8,752.2	\$11,778.6	\$12,168.0	\$12,955.1	\$13,623.7	\$14,318.7	\$15,020.8	\$15,772.0	\$16,578.7	\$17,390.6	\$18,223.7	\$19,074.3
Selected chronic conditions under age 60 ^a	\$1,539.9	\$1,810.3	\$1,864.1	\$1,846.5	\$1,875.6	\$1,904.9	\$1,931.3	\$1,962.8	\$2,001.9	\$2,044.5	\$2,096.2	\$2,159.7
All chronic conditions age 60 or older	\$7,212.4	\$9,968.3	\$10,303.9	\$11,108.6	\$11,748.1	\$12,413.8	\$13,089.5	\$13,809.2	\$14,576.8	\$15,346.2	\$16,127.5	\$16,914.6

Source: Mathematica Policy Research.

Note: “p” indicates a projected year. Attributed costs for 2009 are estimated from historical data. Estimates and projections are expressed in current (versus real) dollars.

^aSummary estimates include attributed costs for obesity, but are unadjusted for smoking exposure.

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Medical and Pharmacy Spending

Attributed medical spending (millions)

Diabetes (all ages)	\$892.4	\$1,127.0	\$1,189.6	\$1,222.9	\$1,271.7	\$1,326.9	\$1,381.7	\$1,441.6	\$1,504.5	\$1,569.5	\$1,638.4	\$1,712.4
Hypertension (all ages)	\$3,450.1	\$4,473.0	\$4,704.4	\$4,841.7	\$5,050.6	\$5,286.6	\$5,522.3	\$5,779.1	\$6,049.7	\$6,330.2	\$6,626.3	\$6,943.8
Dementia (age 18 or older)	\$174.0	\$232.2	\$245.8	\$252.5	\$264.6	\$278.3	\$292.1	\$307.1	\$322.9	\$339.4	\$356.7	\$375.2
Obesity (age 10 to 64)	\$226.4	\$269.7	\$278.5	\$279.5	\$284.6	\$290.4	\$295.7	\$301.7	\$307.8	\$313.9	\$320.8	\$328.2
Smoking exposure (age 18-64)	\$60.4	\$104.1	\$115.4	\$109.6	\$111.9	\$114.5	\$117.0	\$119.8	\$122.7	\$125.9	\$129.4	\$133.3

Summary:

Total	\$7,843.1	\$10,514.2	\$10,858.3	\$11,580.9	\$12,161.8	\$12,786.4	\$13,411.8	\$14,082.3	\$14,809.2	\$15,537.6	\$16,284.0	\$17,047.0
Selected chronic conditions under age 60 ^a	\$1,200.5	\$1,387.4	\$1,434.1	\$1,421.0	\$1,436.3	\$1,457.3	\$1,474.8	\$1,496.7	\$1,523.8	\$1,553.1	\$1,589.1	\$1,633.9
All chronic conditions age 60 or older	\$6,642.6	\$9,126.8	\$9,424.3	\$10,159.9	\$10,725.5	\$11,329.1	\$11,937.0	\$12,585.6	\$13,285.4	\$13,984.5	\$14,694.9	\$15,413.1

Attributed pharmacy spending (millions)

Diabetes (all ages)	\$218.8	\$289.3	\$298.2	\$307.1	\$323.8	\$336.7	\$350.6	\$365.5	\$381.4	\$398.3	\$416.5	\$435.9
Hypertension (all ages)	\$622.2	\$832.2	\$857.6	\$887.5	\$938.1	\$978.1	\$1,021.5	\$1,067.5	\$1,117.1	\$1,169.7	\$1,226.4	\$1,287.4
Dementia (age 18 or older)	\$16.5	\$23.5	\$24.6	\$25.7	\$27.6	\$29.2	\$30.9	\$32.8	\$34.8	\$37.0	\$39.2	\$41.7
Obesity (age 10 to 64)	\$118.8	\$153.2	\$156.5	\$158.7	\$165.4	\$169.8	\$174.7	\$179.8	\$185.1	\$190.8	\$196.9	\$203.3
Smoking exposure (age 18-64)	\$49.1	\$76.5	\$77.3	\$78.7	\$82.7	\$85.8	\$89.1	\$92.6	\$96.4	\$100.3	\$104.6	\$109.1

Summary:

Total	\$909.1	\$1,264.4	\$1,309.7	\$1,374.2	\$1,461.9	\$1,532.3	\$1,609.0	\$1,689.8	\$1,769.5	\$1,853.0	\$1,939.7	\$2,027.3
Selected chronic conditions under age 60 ^a	\$339.4	\$422.9	\$430.0	\$425.5	\$439.3	\$447.6	\$456.5	\$466.2	\$478.2	\$491.4	\$507.1	\$525.9
All chronic conditions age 60 or older	\$569.8	\$841.5	\$879.6	\$948.7	\$1,022.6	\$1,084.7	\$1,152.5	\$1,223.6	\$1,291.4	\$1,361.7	\$1,432.6	\$1,501.4

Source: Mathematica Policy Research.

Note: "p" indicates a projected year. Attributed costs for 2009 are estimated from historical data. Estimates and projections are expressed in current (versus real) dollars.

^aSummary estimates include attributed costs for obesity, but are unadjusted for smoking exposure.

Appendix 4.7: Detailed Data Table – Actual Spending Compared to Baseline Projections, 2015

	Spending projected from 2009			Estimated actual spending			Difference (Actual minus Projected)	Actual as a percentage of projected
	Medical services	Prescription drugs	Total	Medical services	Prescription drugs	Total		
Diabetes	\$1,127.0	\$289.3	\$1,416.4	\$881.0	\$405.6	\$1,286.6	(\$129.8)	91.0%
Hypertension	\$4,473.0	\$832.2	\$5,305.2	\$3,736.6	\$895.0	\$4,631.6	(\$673.6)	87.3%
Dementia	\$232.2	\$23.5	\$255.7	\$203.9	\$11.4	\$215.3	(\$40.4)	84.2%
Obesity	\$269.7	\$153.2	\$422.9	\$133.9	\$175.8	\$309.6	(\$113.3)	73.2%
Smoking exposure	\$104.1	\$76.5	\$180.5	(\$157.7)	\$226.2	\$68.4	(\$112.1)	37.9%
<i>Summary:</i>								
Selected chronic conditions under age 60 ^a	\$1,387.4	\$422.9	\$1,810.3	\$1,303.7	\$557.6	\$1,861.3	\$51.0	102.8%
All chronic conditions, age 60+	\$9,126.8	\$841.5	\$9,968.3	\$8,766.8	\$1,128.4	\$9,895.2	(\$73.1)	99.3%
Total	\$10,514.2	\$1,264.4	\$11,778.6	\$10,070.5	\$1,686.1	\$11,756.6	(\$22.1)	99.8%

Source: Mathematica Policy Research.

Note: “p” indicates a projected year. Attributed costs for 2009 are estimated from historical data. Estimates and projections are expressed in current (versus real) dollars.

^aSummary estimates include attributed costs for obesity, but are unadjusted for smoking exposure.

Appendix 4.8: Detailed Data Table – State-administered Program Shared of Difference between Actual and Projected Spending

Analysis Step	Rate	Under 60 years	Age 60 or older	All Ages
		(in mill \$)		
CONDITION-SPECIFIC DIFFERENCE (actual less projected); /1				
Hypertension				(\$673.56)
Diabetes				(\$129.75)
Obesity (age 10 to 64)				(\$40.37)
Dementia (age 18 or older)				(\$113.30)
Smoking exposure (age 18-64)				(\$112.09)
All chronic conditions (age 60+)			(\$73.10)	(\$73.10)
NET DIFFERENCE (w/o impact of smoking exposure; /2		\$51.04		(\$22.06)
PORTION STATE-ADMINISTERED PROGRAMS (SAP)				
Upper Bound (age distribution); /3				
Pct of net difference (row 13)	27.2%	\$13.91		
Pct of net difference (row 13)	10.4%		(\$7.62)	\$6.28
Lower Bound (presence of chronic condition); /4				
Pct of net difference (row 13)	34.2%	\$17.45		
Pct of net difference (row 13)	8.5%		(\$6.21)	\$11.24
TOBACCO-ATTRIBUTABLE SHARE OF NET DIFFERENCE				
Chronic disease spending accounted for; /5	75%			(\$84.07)
Likely unaccounted spending	25%			(\$28.02)
Portion state-administered; /6,7	19.3%			(\$5.41)
TOTAL NET DIFF W/TOBACCO ESTIMATE				
Lower Bound (row 27 + row 18)				\$0.88
Higher Bound (row 27 + row 21)				\$5.83

Appendix 5: Review of the Literature

Mathematica Policy Research, the analytic vendor MDH retained to support this work, conducted a review of the published literature since 2005, as well as several seminal studies published since 2000, to identify estimates of the cost of the selected conditions for the 2014 report. The analysis identified approximately 35 studies summarized in a full literature review. Twenty-eight of these studies (summarized in the previous report, Appendix A) offered per-person cost estimates, presented either as the average total cost for all health care among people with the condition or average cost of health care attributable to having the condition.

Not all of the studies reviewed produced estimates that are directly comparable to this work. Of those that estimated the average health care costs specifically due to having a specific condition, relatively few took into account the presence of other chronic conditions that may have contributed to overall costs; even those that did often failed to use precise methods. In addition, most focused on specific subpopulations or excluded institutionalized persons, making it difficult to generalize their results to the broader population as the current work requires.

Two observations about these studies are of particular relevance. First, studies that statistically adjusted cost estimates to remove the effect of concurrent but unrelated chronic conditions produced much lower estimates of cost than studies that did not.¹¹ However, too few studies controlled for specific chronic conditions to help us understand how appropriate statistical controls would change estimates produced without such controls.

Second, when reported by age and age-by-gender population subgroups, the cost estimates varied widely across the subgroups. For example, estimates of costs associated with obesity (all uncontrolled for comorbidities) varied by orders of magnitude by age (Moriarty et al. 2012). Among workers age 60 or older, cost estimates for women were approximately twice those for men (Finkelstein et al. 2010). In addition, cost estimates for diabetes differed substantially for diagnoses of Type I diabetes versus Type II (e.g., Tunceli et al. 2010), although challenges concerning the availability of data that reliably permit identifying type 1 and type 2 diabetes are partly responsible for this variation.

Taken together this means the work pursued by Minnesota is methodologically complex and substantially innovative. However, there are also limited opportunities for benchmarking this work to existing estimates, either locally or nationally.

¹¹ For example, in a given year, hypertensive patients might receive care for hypertension and care for a trauma injury. While the care might occur concurrently, the treatment of the injury is unrelated to the hypertension diagnoses, and cost estimates for hypertension would be inaccurate if the cost for injury care were not removed.

Appendix 6: Study Methodology, Mathematica Policy Research

Introduction

The methods used to produce initial estimates of health care spending for four chronic diseases (diabetes, hypertension, obesity and obesity-related conditions, and dementia) and one risk behavior (tobacco exposure) are documented below. In this section, we describe our general approach and provide key definitions. In additional sections, we offer details on the data and methods used to develop estimates for each chronic condition, smoking exposure, all chronic conditions among Minnesotans age 60 or older, and total estimates for the selected chronic conditions among Minnesotans under age 60. Finally, we describe the methods used to project the spending estimates to 2020 and outline several important methodological challenges and limitations.

General Approach

This report focuses on the methods used to generate cost estimates for 2015, and to project 2015 expected spending from a 2009 baseline. Compared with the estimates produced for 2014¹², the 2015 estimates vary principally in the conversion of ICD-9 diagnosis coding to ICD-10 in the last quarter of 2015. Otherwise, the methods described in this report are essentially identical to those underlying the 2014 estimates.

To estimate spending related to diabetes, hypertension, and dementia for medical services and pharmacy (Rx) in 2009, 2014, and 2015, we identify persons with each condition, estimate their probability of service use, and estimate medical and Rx spending per person per month among service users. All analyses are conducted at the unique person level. The per member per month (pmpm) cost estimates control for unrelated conditions that contribute to spending. All person-level observations are weighted by the number of months the person is observed in the source data.

In general, the estimating equations are specified as:

$$(1) P(U_i) = f(X_i, C_{ik})$$

$$(2) S_j = f(X_j, C_{jk}, C_{jm})$$

¹² Information related to the 2014 cost estimates is documented in Chollet, D., J. Li, T. Bell, and Q. Shang. "The Cost of Selected Chronic Diseases and Smoking Exposure." Report submitted to the Minnesota Department of Health (revised November 30, 2017).

where $P(U_i)$ is the probability (equal to zero or one) that person i uses any services that generate spending of at least \$1 per month, S_j is average spending per person per month among the subset j of persons with spending of at least \$1 per month, and X_i and X_j are vectors of personal characteristics describing persons i and the subset of persons j . C_{ik} and C_{jk} are indicator variables for the condition of interest k , and C_{jm} is a vector of indicator variables for conditions that are unrelated to C_{jk} .

This method of estimation is analogous the methods underlying the Centers for Disease Control and Prevention(CDC)/RTI cost estimation model with three key distinctions:^{13,14}

- We use the 2009, 2014, and 2015 Minnesota All Payer Claims Database (MN APCD) to identify Minnesotans with each condition (defined by diagnosis codes on one or more medical claims), and use claims both to identify service users and to calculate medical and Rx spending controlling for unrelated conditions. Models estimated using the MN APCD omit the first estimating equation; the probability of service use among persons with the condition of interest (C_{ik}) is set to one.
- We use the Medical Expenditure Panel Survey (MEPS) to analyze obesity, which is not observable in the MN APCD, and populations that do not report to the MN APCD (Tricare enrollees and the uninsured, including those who rely on care from Veterans Health Administration facilities or the Indian Health Service).¹⁵
- We adopt the smoking exposure estimates of probability of service use and pmpm expenditures developed for 2014—which also were based on MEPS, matched to the National Health Interview Survey to identify past smokers. We update the 2014 pmpm estimates to 2015 prices, and reweight both the probability of service use and pmpm expenditures to 2015 coverage and population estimates as described in the projections section of this report.
- We estimate spending per person per month separately for different age groups and levels of spending in order to improve the accuracy of the estimates in the “tails” of the

¹³ The Chronic Disease Calculator measures the medical cost (and, separately, the cost of absenteeism) associated with arthritis, asthma, cancer, cardiovascular diseases (specifically, congestive heart failure, coronary heart disease, hypertension, stroke, and other cerebrovascular disease), depression, and diabetes. See the technical documentation available at <http://www.cdc.gov/chronicdisease/calculator/resources.html>, accessed November 30, 2015.

¹⁴ See Mathematica Policy Research. “CDC/RTI Chronic Disease Cost Calculator and Comparison with Proposed Mathematica Methods.” Memorandum submitted to the Health Economics Division, Minnesota Department of Health (December 3, 2015).

¹⁵ In contrast, the CDC/RTI estimates of service use and expenditures rely on the relatively small non-public sample of the Minnesota population in the MEPS.

spending distribution. This method serves to minimize overestimation of spending among very low spenders and underestimation of spending among very high spenders.

Because the MN APCD captures payments for formal long-term care, we do not estimate those costs separately. The estimates for tobacco exposure and obesity—which rely on MEPS and are benchmarked to the APCD—assume, in effect, that long-term care costs are proportional to acute care costs associated with those conditions.

For Minnesotans who are privately insured or enrolled in Medicare or Medicaid, we estimate the probability of service use and per-person cost among service users associated with (1) diabetes, (2) hypertension, (3) dementia, and (4) all chronic conditions among persons aged 60 or older from the MN APCD. Estimates for population groups not represented in the MN APCD (Minnesotans enrolled in Tricare or who are uninsured), and all estimates for obesity and smoking, are derived from MEPS and benchmarked to the MN APCD.

Outliers are defined among persons with medical or Rx spending greater than \$1 per person month and removed from both datasets. In the MN APCD, outliers are defined as persons with medical or Rx spending per month that is more than twice the 99.99th percentile among all spenders, calculated separately for children, adults, and seniors. To develop MEPS-based estimates for smoking and obesity, outliers in MEPS are defined as persons with medical or Rx spending per month above the 99.90th percentile among all spenders, calculated separately for children, adults, and seniors. We selected the lower threshold to define outliers in MEPS because persons with spending above the 99.90th percentile included too few persons with the condition of interest to yield stable estimates.

Definitions

The following sections describe the definition of conditions, assignment of coverage categories (which enables benchmarking to account for persons not represented in the MN APCD), and how household income is estimated for modeling the probability and use of services underlying each set of cost estimates.

Disease Coding

To identify the key diagnoses/risk factors and other diagnoses, we use (as available in each data source):

- Screening variables (in MEPS and the National Health Interview Survey [NHIS])
- International Classification of Diseases, version 9 (ICD-9) codes (in MEPS and the MN APCD)
- International Classification of Diseases, version 10 (ICD-10) codes (in MEPS and the MN APCD)

- Adjusted Clinical Group (ACG)/Expanded Diagnosis Clusters (EDCs) codes appended to the MN APCD.

MEPS reports three-digit ICD-9 diagnosis codes for services used in calendar 2015, while the MN APCD reports full ICD-9 diagnosis codes (for dates of service in January through September 2015) and full ICD-10 diagnosis codes (in general, for dates of service in October through December 2015). The more detailed coding available in the MN APCD likely produces more accurate estimates of spending attributed to these conditions for populations represented in the APCD than for those whose cost estimates rely on MEPS. However, the transition from ICD9 to ICD10 coding during 2015 creates the potential for apparent changes in disease prevalence related only to differences in coding.

Diagnoses are defined based on medical claims exclusive of lab claims, which might code for conditions being tested. Very few or none of the persons identified with any of the conditions defined in Appendix Table A.1 had lab claims coded with the condition, but no medical service claim coded with that condition.

Coverage

Common definitions of coverage are used for both the MEPS and MN APCD analyses.

Persons in MEPS are assigned to unique coverage categories by arraying their sources of coverage by month and selecting the coverage status that corresponds to the greatest number of months during the year (that is, their modal coverage status). For persons with equal months of coverage from two or more sources, coverage is assigned hierarchically, giving precedence to Medicare, then commercial insurance or Tricare, then Medicaid or other public coverage, and then uninsured.

For persons in the MN APCD, sources of coverage by month are similarly arrayed. When two or more sources account for an equal number of months during the year, the same hierarchy is used to assign coverage: first Medicare, then commercial insurance, then Medicaid or other public coverage. This process results in the assignment of each person to a unique, primary coverage status, although the person might have claims paid from multiple sources of coverage during the year. After developing marginal cost estimates for each condition and risk factor for persons (by age and sex) in each coverage category, the estimates are weighted to account for categories of persons not included in the MN APCD—specifically, Tricare enrollees and

uninsured persons. The final estimates reflect the distribution of coverage (by age and sex) reported in 2009, 2014, and 2015 in the Minnesota Health Access Survey.¹⁶

Household Income

To capture the effects of household income on service use in the analyses that rely on the MN APCD, we assign each person in the MN APCD to a community. This assignment is done by mapping each person's zip code to their U.S. Census-defined Zip Code Tabulation Area (ZCTA). Household income is calculated from the Minnesota population samples of the 2009, 2014, and 2015 American Community Survey, arraying population-weighted mean household income by ZCTA, rounding to the nearest \$100 and scaling by \$10,000. For models using MEPS data, we use actual reported household income.

Diabetes

Medical and Rx spending associated with diabetes is estimated from the MN APCD and from MEPS:

- Spending among persons with Medicare, private (commercial) insurance, or Medicaid or other public coverage is estimated using the MN APCD.
- Spending among uninsured persons and persons in Tricare (neither represented in the MN APCD) is estimated using MEPS.

Estimating per-person-per-month spending for persons in Medicare, private insurance, or Medicaid or other public coverage

In the MN APCD, a person is defined as having diabetes if he or she had a diagnosis of diabetes or application of The Johns Hopkins ACG system indicated diabetes, excluding gestational diabetes. We analyzed the difference between diabetes identified by the diagnosis coded in at least one medical claim unrelated to a lab test in 2014 in the APCD and the lenient ACG criteria (which require at least one medical diagnosis but separately consider Rx information as well). We found that 99.2 percent of persons identified as having or not having diabetes by inspection of medical claims were also flagged by the ACG system. We did not explore this relationship for analysis of the 2015 APCD. However, using the same criteria (the individual either had a claim coded with a diagnosis diabetes or was flagged by the ACG system), we produced diabetes prevalence estimates that were very similar to the 2014 estimates.

¹⁶ The Minnesota Health Access Survey is a biennial dual-frame, random-digit-dial household survey that collects information on health insurance and health care access among Minnesotans. See <http://www.health.state.mn.us/divs/hpsc/hep/hasurvey/about.html>, accessed May 24, 2018.

Because our prevalence estimates are based directly on diagnostic coding, we assume that all persons with diabetes in the MN APCD have medical spending. The probability of Rx spending among diabetics and the probabilities of medical and Rx spending among non-diabetics are set equal to the actual probabilities in the MN APCD by age, gender, and coverage category.

The level of medical or Rx spending among those with monthly spending above \$1 is estimated from a series of medical cost and Rx cost models. We estimate average spending per month for each of 12 population groups (in total, 24 models), including children (age 0-17), young adults (age 18-44), older adults (age 45-64), and seniors (age 65 or older) in each of three spending categories (to minimize error in predicting spending in the tails of each distribution):

- Low cost, defined as persons with per-person-per-month spending below the 80th percentile within their age category
- High cost, defined as persons with per-person-per-month spending at or above the 80th percentile but below the 98th percentile within their age category
- Extra high cost, defined as persons with per-person-per-month spending at or above the 98th percentile within their age category

Estimates of per-person-per-month spending among persons with total spending above \$1 are based on generalized least-squares (log-linked, gamma distribution) unique-person-level regression models controlling for diagnoses independent of diabetes. The spending models, estimated by coverage category among medical service and Rx users are specified as follows:

- Medical spending per month = $f(\text{AGE, SEX, INCOME, INCOME_SQ, MCR, MCD, TBCO, DIAB, OBES, HPER, DEMT, ARTH, ASTH, OTH_CANC_D, INJR_DIAB, SURW, HIVA, PNEU, COPD, MHSA, BACK, PREG, PRNT, RHEU, VALV, PULM, PERI, OTHC_DIAB, AGE*SEX, DIAB*AGE, DIAB*SEX, HPER*DIAB, DEMT*DIAB, TBCO*DIAB, ARTH*DIAB, SURW*DIAB, HIVA*DIAB, PNEU*DIAB, COPD*DIAB, MHSA*DIAB, PREG*DIAB, VALV*DIAB, PULM*DIAB, PERI*DIAB})$
- Rx spending per month = $f(\text{AGE, SEX, INCOME, INCOME_SQ, MCR, MCD, TBCO, DIAB, OBES, HPER, DEMT, ARTH, ASTH, OTH_CANC_D, INJR_DIAB, SURW, HIVA, PNEU, COPD, MHSA, BACK, PREG, PRNT, RHEU, VALV, PULM, PERI, OTHC_DIAB, AGE*SEX, DIAB*AGE, DIAB*SEX, HPER*DIAB, DEMT*DIAB, TBCO*DIAB, ARTH*DIAB, SURW*DIAB, HIVA*DIAB, PNEU*DIAB, COPD*DIAB, MHSA*DIAB, PREG*DIAB, VALV*DIAB, PULM*DIAB, PERI*DIAB})$

In the specifications above, AGE, INCOME, AND INCOME_SQ are continuous variables equal to the person's age, family income, and family income squared (to capture potential non-linear effects of income on spending). MCR and MCD are categorical variables equal to 1 if the person is enrolled, respectively, in Medicare or Medicaid (or other public coverage) in most months of

the year; TBCO is an indicator variable for the person's current smoking status based on the MEPS screening question asked of all persons age 18 or older in the MEPS sample.

All other control variables are categorical variables indicating medical conditions that are clinically unrelated to diabetes (DIAB)—that is, a reduction in diabetes would not be expected to affect the incidence of these conditions). The clinically unrelated conditions are: obesity (OBES), hypertension (HPER), dementia (DEMT), arthritis (ARTH), asthma (ASTH), cancers unrelated to diabetes (OTH_CANC_D), injuries unrelated to diabetes (INJR_DIAB), surgical wounds (SURW), HIV-AIDS (HIVA), pneumonia (PNEU), chronic obstructive pulmonary disease (COPD), mental health and substance abuse (MHSA), back problems (BACK), pregnancy (PREG), perinatal conditions and fetal conditions (PRNT), rheumatic heart disease (RHEU), diseases of mitral and aortic valves and other endocardial structures (VALV), pulmonary disease (PULM), acute and other pericardial and endocardial disease (PERI), and some additional rare conditions (OTHC_DIAB). The ICD-9 and ICD-10 diagnosis codes that define these conditions are listed in Table A.1.

Because the models do not control for diagnoses clinically linked to diabetes, the coefficient estimated for diabetes (DIAB) captures spending associated with clinically related conditions.

Some condition variables (hypertension, dementia, tobacco, arthritis, surgical wounds, HIV, pneumonia, chronic obstructive pulmonary disease, mental health and substance abuse, pregnancy, diseases of mitral and aortic valves and other endocardial structures, pneumonia, pulmonary disease, acute and other pericardial and endocardial disease, and some additional rare conditions) are interacted with diabetes, as diabetes does not affect the occurrence of these conditions but can affect the health outcomes and cost of treating these conditions.

The models are edited (via stepwise regression) to remove variables with statistically insignificant associations with per-person-per-month spending ($p > 0.15$). Only variables with statistically significant associations with per-person-per-month spending remain in the final specification and contribute to the final spending estimates.

Using the estimated parameters, we calculate (separately) per-person-per-month medical and Rx spending for diabetes by age and gender as the difference between the sum of expected spending per person per month and the per-person-per-month spending that would occur in each coverage category if no person were diagnosed with diabetes (estimated with $DIAB = 0$):

- (1) Medical cost of diabetes = Med spending (DIAB = actual) - Med spending (DIAB = 0)
- (2) Rx cost of diabetes = Rx spending (DIAB = actual) - Rx spending (DIAB = 0)

Estimating per-person-per-month spending for persons who are uninsured or in Tricare

Because the MN APCD does not include information for persons who are uninsured or on Tricare, we use MEPS data to estimate their spending. For these persons, we estimate logit models to predict the probability of medical and pharmacy spending among persons who are diabetic versus nondiabetic. These models are estimated over a subset of the MEPS national population sample, including the persons with commercial insurance (baseline), persons who are uninsured (UNIS), and persons in Tricare (TRI). The models are specified as:

- $P(\text{Medical service use}) = f(\text{AGE, SEX, INCOME, MIDWEST, DIAB, UNIS})$
- $P(\text{Rx use}) = f(\text{AGE, SEX, INCOME, MIDWEST, DIAB, UNIS})$
- $P(\text{Medical service use}) = f(\text{AGE, SEX, INCOME, MIDWEST, DIAB, TRI})$
- $P(\text{Rx use}) = f(\text{AGE, SEX, INCOME, MIDWEST, DIAB, TRI})$

Because of the relatively small MEPS sample of persons with diabetes, we estimate medical and Rx cost models only for adults and in two population groups (in total, four models):

- Low-cost adults, defined as adults with per-person-per-month spending below the 80th percentile among adults
- High-cost adults, defined as adults with per-person-per-month spending at or above the 80th percentile among adults

Other than adding a MIDWEST region indicator, the medical and Rx cost models are specified identically to the MN APCD-based models. We estimate each model for persons in the MEPS sample who are (1) commercially insured or uninsured and (2) commercially insured or in Tricare. Statistically insignificant variables ($p > 0.15$) are removed via step-wise regression, and only statistically significant variables remain in the final specifications.

We then calculate the same equations (1) and (2) as for the MN APCD population, but using estimates derived from MEPS. These results are benchmarked to spending among the privately insured population in the MN APCD (Equations 3 to 6 below) to arrive at the per-person-per-month medical and Rx cost of diabetes for Minnesotans who are uninsured or in Tricare:

(3) Medical cost of diabetes (uninsured) =

$$\frac{\text{Med. Cost of DIAB (unin}_{MEPS})}{\text{Med. Cost of DIAB (comm}_{MEPS})} * \text{Med. cost of DIAB (comm}_{APCD})$$

(4) Rx cost of diabetes (uninsured) =

$$\frac{\text{Rx Cost of DIAB (unin}_{MEPS})}{\text{Rx Cost of DIAB (comm}_{MEPS})} * \text{Rx cost of DIAB (comm}_{APCD})$$

(5) Medical cost of diabetes (Tricare) =

$$\frac{\text{Med. Cost of DIAB (Tricare}_{MEPS})}{\text{Med. Cost of DIAB (comm}_{MEPS})} * \text{Med. cost of DIAB (comm}_{APCD})$$

(6) Rx cost of diabetes (Tricare) =

$$\frac{\text{Rx Cost of DIAB (Tricare}_{MEPS})}{\text{Rx Cost of DIAB (comm}_{MEPS})} * \text{Rx cost of DIAB (comm}_{APCD})$$

Estimating total cost

Total medical and Rx spending associated with diabetes is calculated as per-person-per-month spending associated with diabetes among Minnesotans with diabetes in each coverage category (by age and sex) annualized over 12 months and multiplied by the estimated number of persons with diabetes. These calculations are done somewhat differently for persons observed in the MN APCD (in Medicare, Medicaid or other public coverage, or commercial insurance), versus those not observed in the MN APCD (in Tricare or uninsured):

- For persons with Medicare, Medicaid or other public coverage, or commercial insurance, the percentage of Minnesotans with diabetes (by age, sex, and source of coverage) is derived from the MN APCD. In effect, we assume that Minnesotans in very small private insurance plans that do not report to the MN APCD have the same rate of diabetes as the average among those in plans that do report.
- For persons in Tricare or who are uninsured, the number of Minnesotans with diabetes is estimated (by age, sex, and coverage) as the percentage of persons in 2015 Minnesota Behavioral Risk Factor Surveillance System (MN BRFSS) who report having ever been told they have diabetes, multiplied by the national MEPS percentage of all diabetics who are in Tricare or are uninsured (respectively).

These percentages are multiplied by the number of persons in Minnesota population sample of the American Community Survey (ACS) who reported each coverage status to arrive at a total spending estimate benchmarked to the ACS. The total number of persons across coverage categories is then adjusted to Minnesota’s total population estimates by age and sex to produce final total cost estimates.

Hypertension

Medical and Rx spending associated with hypertension is estimated from the MN APCD and the MEPS – Household Component:

- Spending among persons with Medicare, private (commercial) insurance, or Medicaid or other public coverage is estimated using the MN APCD.

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- Spending among uninsured persons and persons in Tricare (neither represented in the MN APCD) is estimated using MEPS.

Estimating per-person-per month medical and Rx cost among service users: persons in Medicare, private insurance, or Medicaid or other public coverage

Persons represented in the MN APCD are identified as having hypertension if they have a diagnosis of hypertension on at least two claims unrelated to a lab test, or application of The Johns Hopkins Adjusted Clinical Groups® (ACG®) system (lenient criteria) indicates hypertension. We identified a person as hypertensive if he or had had a diagnosis of hypertension coded on two or more medical claims unrelated to a lab test or the lenient ACG criteria (which require at least one medical diagnosis but separately also consider Rx information) indicated hypertension.

Because our prevalence estimates are based directly on diagnostic coding, we assume that all persons with hypertension in the MN APCD have medical spending. The probability of Rx spending among persons with hypertension, and the probabilities of medical and Rx spending among persons without hypertension, are set equal to the actual probabilities in the MN APCD by age, gender, and coverage category.

The level of medical or Rx spending among those with per-person-per-month spending above \$1 is estimated from a series of medical cost and Rx cost models. We estimate medical and Rx spending for each of 12 population groups (in total, 24 models), including children (age 0 to 17), young adults (age 18 to 44), older adults (age 45 to 64) and seniors (age 65 or older) in each of three spending categories (to minimize error in predicting spending in the tails of each distribution):

- Low cost, defined as persons with per-person-per-month spending below the 80th percentile within their age category
- High cost, defined as persons with per-person-per-month spending at or above the 80th percentile but below the 98th percentile within their age category
- Extra high cost, defined as persons with per-person-per-month spending at or above the 98th percentile within their age category

Estimates of per-person-per-month spending among persons with total spending above \$1 are based on generalized least-squares (log-linked, gamma distribution) unique-person-level regression models controlling for diagnoses that are independent of hypertension.

Estimated by coverage category among, respectively, medical service and Rx users, the spending models are specified as follows:

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- Medical spending per month = f (AGE, SEX, INCOME, INCOME_SQ¹⁷, MCR, MCD, HPER, OBES, DEMT, TBCO, ARTH, ASTH, CANC, INJR, DYSL, HIVA, PNEU, COPD, MHSA, BACK, SKIN, PREG, PRNT, RHEU, VALV_HPER, PULM, PERI, OTHH, OTHC_HPER, AGE*SEX, HPER *AGE, HPER *SEX, HPER*OBES, DEMT* HPER, ARTH* HPER, ASTH* HPER, CANC* HPER, DYSL* HPER, COPD* HPER, MHSA* HPER, PREG* HPER, PULM* HPER)
- Rx spending per month = f (AGE, SEX, INCOME, INCOME_SQ, MCR, MCD, HPER, OBES, DEMT, TBCO, ARTH, ASTH, CANC, INJR, DYSL, HIVA, PNEU, COPD, MHSA, BACK, SKIN, PREG, PRNT, RHEU, VALV_HPER, PULM, PERI, OTHH, OTHC_HPER, AGE*SEX, HPER *AGE, HPER *SEX, HPER*OBES, DEMT* HPER, ARTH* HPER, ASTH* HPER, CANC* HPER, DYSL * HPER, COPD* HPER, MHSA* HPER, PREG* HPER, PULM* HPER)

In these specifications, AGE, INCOME, INCOME_SQ are continuous variables. MCR and MCD are indicator variables for coverage status (private insurance is the omitted category).

All other variables are indicator variables for diagnosed conditions: hypertension (HPER), obesity (OBES), dementia (DEMT), tobacco use (TBCO), arthritis (ARTH), asthma (ASTH), cancer (CANC), injuries (INJ), dyslipidemia (DYSL), HIV-AIDS (HIVA), pneumonia (PNEU), chronic obstructive pulmonary disease (COPD), mental health and substance abuse (MHSA), back conditions (BACK), conditions of the skin (SKIN), pregnancy (PREG), perinatal conditions (PRNT) rheumatic heart disease (RHEU), diseases of mitral and aortic valves & other endocardial structures unrelated to hypertension (VALV_HPER), pulmonary disease (PULM), acute and other pericardial and endocardial disease (PERI), other or ill-defined heart disease(OTHH), and other conditions unrelated to hypertension (OTHC_HPER). The ICD-9 and ICD-10 diagnoses codes that compose these conditions are listed in Table A.1.

Because the models do not control for diagnoses clinically linked to hypertension, the coefficient estimated for hypertension (HPER) captures the impact on spending of clinically related conditions. Some condition variables (obesity, dementia, asthma, arthritis, cancer, dyslipidemia, chronic obstructive pulmonary disease, mental health and substance abuse, pregnancy, diseases of mitral and aortic valves and other endocardial structures, pneumonia, and pulmonary disease) are interacted with hypertension, because hypertension does not affect the occurrence of these conditions but can affect the health outcomes and cost of treating them.

The models are edited (via stepwise regression) to remove variables with statistically insignificant associations with per-person-per-month spending ($p > 0.15$). Only variables with

¹⁷ We included income and the square of income to capture the non-linear effect of income on spending.

statistically significant associations with per-person-per-month spending remain in the final specification and contribute to the final spending estimates.

Using the estimated parameters, we calculate (separately) medical and Rx spending for hypertension by age and gender as the difference between the sum of expected spending per person per month and the per-person-per-month spending that would occur if no person were diagnosed with hypertension (estimated with HPER = 0):

- (1) Medical cost of hypertension = Med spending (HPER = actual) - Med spending (HPER = 0)
- (2) Rx cost of hypertension = Rx spending (HPER = actual) - Rx spending (HPER = 0)

Estimating the probability of medical service and Rx use and per-person- per-month spending among service users: persons who are uninsured or in Tricare

Because the MN APCD does not include information for persons who are uninsured or in Tricare, we use MEPS data to estimate their spending. For these persons, we estimate logit models to predict the probability of medical and pharmacy spending among persons who are hypertensive versus those who are not. These models are estimated over a subset of the MEPS national population sample, including the persons with commercial insurance (baseline), persons who are uninsured (UNIS, and persons in Tricare (TRI). The models are specified as:

- $P(\text{Medical service use}) = f(\text{AGE, SEX, INCOME, MIDWEST, HPER, UNIS})$
- $P(\text{Rx use}) = f(\text{AGE, SEX, INCOME, MIDWEST, HPER, UNIS})$
- $P(\text{Medical service use}) = f(\text{AGE, SEX, INCOME, MIDWEST, HPER, TRI})$
- $P(\text{Rx use}) = f(\text{AGE, SEX, INCOME, MIDWEST, HPER, TRI})$

Because of the relatively small MEPS sample of persons with hypertension, we estimate medical and Rx cost models only for adults and seniors combined, in two population groups (in total, four models):

- Low-cost adults and seniors, defined as adults with per-person-per-month spending below the 80th percentile among adults and seniors
- High-cost adults and seniors, defined as adults with per-person-per-month spending at or above the 80th percentile among adults and seniors

The medical and Rx cost modes specifications are based on those used above for APCD, adding an indicator variable (MIDWEST) to designate the MEPS Midwest population sample. We estimate each model twice, respectively for persons who are (1) commercially insured or uninsured and (2) commercially insured or in Tricare. Statistically insignificant variables ($p > 0.15$) are removed via step-wise regression, and only statistically significant variables remain in the final specification.

We then calculate the same equations (1) and (2) as for the MN APCD population, but using estimates derived from MEPS. These results are benchmarked spending among the privately insured population in the MN APCD (Equations 3 to 6 below) to arrive at the per-person-per-month medical and Rx cost of hypertension for Minnesotans who are uninsured or in Tricare:

$$(3) \text{ Medical cost of HPER (uninsured)} = \frac{\text{Med. Cost of HPER (unin}_{MEPS})}{\text{Med. Cost of HPER (comm}_{MEPS})} * \text{Med. cost of HPER (comm}_{APCD})$$

$$(4) \text{ Rx cost of HPER (uninsured)} = \frac{\text{Rx Cost of HPER (unin}_{MEPS})}{\text{Rx Cost of HPER (comm}_{MEPS})} * \text{Rx cost of HPER (comm}_{APCD})$$

$$(5) \text{ Medical cost of HPER (Tricare)} = \frac{\text{Med. Cost of HPER (unin}_{MEPS})}{\text{Med. Cost of HPER (comm}_{MEPS})} * \text{Med. cost of HPER (comm}_{APCD})$$

$$(6) \text{ Rx cost of HPER (Tricare)} = \frac{\text{Rx Cost of HPER (unin}_{MEPS})}{\text{Rx Cost of HPER (comm}_{MEPS})} * \text{Rx cost of HPER (comm}_{APCD})$$

Estimating total cost

Total medical and Rx spending associated with hypertension is calculated as per-person-per-month spending associated with hypertension among Minnesotans with hypertension in each coverage category (by age and sex) annualized over 12 months and multiplied by the number of persons with hypertension. These calculations are done somewhat differently for persons observed in the MN APCD (in Medicare, Medicaid or other public coverage, or commercial insurance), versus those not observed in the MN APCD (in Tricare or uninsured):

- For persons with Medicare, Medicaid or other public coverage, or commercial insurance, the percentage of Minnesotans with hypertension (by age, sex, and source of coverage) is derived from the MN APCD. In effect, we assume that Minnesotans in very small private insurance plans that do not report to the MN APCD have the same rate of hypertension as the average among those in plans that do report.
- For persons in Tricare or who are uninsured, the number of Minnesotans with hypertension is estimated (by age, sex, and coverage) as the percentage of persons in the MN BRFSS who report having ever been told they have high blood pressure,

multiplied by the national 2015 MEPS percentage of all hypertensive persons in Tricare or who are uninsured (respectively).

These percentages are multiplied by the number of persons in the ACS who reported each coverage status to arrive at a total spending estimate benchmarked to the ACS. The total number of persons across coverage categories is then adjusted to Minnesota's total population estimates by age and sex to produce final total cost estimates.

Dementia

Medical and Rx spending associated with dementia among persons with Medicare, private (commercial) insurance, or Medicaid or other public coverage is estimated using the MN APCD. We found no diagnoses of dementia among uninsured persons and persons on Tricare in the MEPS population (presumably because of small sample size), so we do not estimate spending attributed to dementia among those population groups.

Persons with at least one diagnosis of dementia unrelated to a lab test in the MN APCD are defined as having dementia. Following our methods developed for the 2014 estimates, we chose not to use Johns Hopkins EDC indicator for dementia (NUR24). For the 2014 estimates, we investigated sources of differences between dementia identified by the diagnosis coded in at least one medical claim versus the ACG system and found that most persons with dementia identified from medical claims but not identified by the ACG system had dementia that derived from other diagnosed conditions.¹⁸ Because we expect that legislative interest is focused largely on senile dementias, we use only medical claims diagnoses to identify dementia. In addition, because instances of dementia among children under age 18 are very rare¹⁹ and highly clustered among infants, we omit children ages 0-17 from the analysis.

Estimating per-person-per-month medical service and Rx cost among service users

The level of medical or Rx spending among those with per-person-per-month spending above \$1 is estimated from a series of medical cost and Rx cost models. We estimate medical cost and Rx cost models (in total, 18 models) for young adults (age 18 to 44), older adults (age 45 to 64), and seniors (age 65 or older) in each of three spending categories:

¹⁸ Most persons with dementia identified by the ACG system but not by examination of medical claims in 2014 had the following diagnoses: other persistent mental disorders due to conditions not classified elsewhere (ICD-9 294.8), dementia in conditions classified elsewhere without behavioral disturbance (ICD-9 294.10), dementia in conditions classified elsewhere with behavioral disturbance (ICD-9 294.11), or alcohol-induced persisting dementia (ICD-9 291.2).

¹⁹ In 2014, such conditions included Reye's syndrome (ICD-9 331.81) and communicating hydrocephalus (ICD-9 331.3).

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- Low cost, defined as persons with per-person-per-month spending below the 80th percentile within their age category
- High cost, defined as persons with per-person-per-month spending at or above the 80th percentile but below the 98th percentile within their age category
- Extra high cost, defined as persons with per-person-per-month spending at or above the 98th percentile within their age category

Estimates of per-person-per-month spending among persons with total spending above \$1 are based on generalized least-squares (log-linked, gamma distribution) unique-person-level regression models controlling for diagnoses independent of dementia. Estimated by coverage category among, respectively, medical service and Rx users, the spending models are specified as follows:

- Medical spending per month = f (AGE, SEX, INCOME, INCOME_SQ, MCR, MCD, DEMENT, DIAB, OBES, HPER, TBCO, ARTH, ASTH, CANC, CHF, CAD, STRO, OCVD, DYSL, HIVA, PNEU, COPD, MHSA, BACK, SKIN_DEMENT, RENL, PREG, PRNT, RHEU, VALV, PULM, PERI, CARM, COND, CDYS, OTHH, OTHC_DEMENT, AGE*SEX, DEMENT*AGE, DEMENT*SEX, HPER*DEMENT, DIAB*DEMENT, TBCO*DEMENT, ARTH*DEMENT, ASTH*DEMENT, CANC*DEMENT, CHF*DEMENT, CAD*DEMENT, STRO*DEMENT, OCVD*DEMENT, DYSL*DEMENT, HIVA*DEMENT, PNEU*DEMENT, COPD*DEMENT, MHSA*DEMENT, SKIN_DEMENT*DEMENT, RENL*DEMENT, RHEU*DEMENT, VALV*DEMENT, PULM*DEMENT, PERI*DEMENT, CARM*DEMENT, COND*DEMENT, CDYS*DEMENT, OTHH*DEMENT)
- Rx spending per month = f (AGE, SEX, INCOME, INCOME_SQ, MCR, MCD, DEMENT, DIAB, OBES, HPER, TBCO, ARTH, ASTH, CANC, CHF, CAD, STRO, OCVD, DYSL, HIVA, PNEU, COPD, MHSA, BACK, SKIN_DEMENT, RENL, PREG, PRNT, RHEU, VALV, PULM, PERI, CARM, COND, CDYS, OTHH, OTHC_DEMENT, AGE*SEX, DEMENT*AGE, DEMENT*SEX, HPER*DEMENT, DIAB*DEMENT, TBCO*DEMENT, ARTH*DEMENT, ASTH*DEMENT, CANC*DEMENT, CHF*DEMENT, CAD*DEMENT, STRO*DEMENT, OCVD*DEMENT, DYSL*DEMENT, HIVA*DEMENT, PNEU*DEMENT, COPD*DEMENT, MHSA*DEMENT, SKIN_DEMENT*DEMENT, RENL*DEMENT, RHEU*DEMENT, VALV*DEMENT, PULM*DEMENT, PERI*DEMENT, CARM*DEMENT, COND*DEMENT, CDYS*DEMENT, OTHH*DEMENT)

In these specifications, AGE, INCOME, INCOME_SQ are continuous variables. MCR and MCD are indicator variables for coverage status (private insurance is the omitted category).

All other variables are indicator variables for diagnosed conditions: diabetes (DIAB), obesity (OBES), hypertension (HPER), tobacco use (TBCO), arthritis (ARTH), asthma (ASTH), cancer (CANC), congestive heart failure (CHF), coronary artery disease (CAD), stroke (STRO), other cerebrovascular disease (OCVD), dyslipidemia (DYSL), HIV-AIDS (HIVA), pneumonia (PNEU), chronic obstructive pulmonary disease (COPD), mental health and substance abuse (MHSA),

back conditions (BACK), skin conditions unrelated to dementia behaviors (SKIN_DEMT)²⁰, renal failure and chronic kidney disease (RENL), pregnancy (PREG), perinatal and fetal conditions (PRNT), rheumatic heart disease (RHEU), diseases of mitral and aortic valves & other endocardial structures (VALV), pulmonary disease (PULM), acute and other pericardial and endocardial disease (PERI), cardiomyopathy (CARM), conduction disorders (COND), cardiac dysrhythmias CDYS, other or ill-defined heart disease (OTHH), and other rare conditions unrelated to dementia (OTHC_DEMT). The ICD-9 and ICD-10 diagnoses codes that compose these conditions are listed in Table A.1.

Because the models do not control for diagnoses clinically linked to dementia (DEMT), the coefficient estimated for dementia captures the impact on spending of clinically related conditions. The model interacts with dementia many control conditions for which dementia can affect the cost of treatment, although it does not affect their occurrence.

The models are edited (via stepwise regression) to remove variables with statistically insignificant associations with per-person-per-month spending ($p > 0.15$). Only variables with statistically significant associations with per-person-per-month spending remain in the final specification and contribute to the final spending estimates.

Using the estimated parameters, we calculate (separately) medical and Rx spending for dementia by age and gender as the difference between the sum of expected spending per person per month and per-person-per-month spending that would occur if no person were diagnosed with dementia (estimated with DEMT = 0):

- (1) Medical cost of dementia = Med spending (DEMT = actual) - Med spending (DEMT = 0)
- (2) Rx cost of dementia = Rx spending (DEMT = actual) - Rx spending (DEMT = 0)

Estimating total cost

Total medical and Rx spending associated with dementia is calculated as per-person-per-month spending associated with dementia among Minnesotans with dementia in each coverage category (by age and sex) annualized over 12 months. These calculations assume, in effect, that Minnesotans in very small private insurance plans that do not report to the MN APCD have the same rate of dementia as the average among those in plans that do report.

These percentages are multiplied by the number of persons in 2015 MHAS who reported each coverage status to arrive at a total spending estimate benchmarked to 2015 MHAS. The total

²⁰ Skin conditions related to dementia include corns and callosities (ICD-9 700), chronic ulcer of skin (ICD-9 707), and other local infections of skin and subcutaneous tissue (ICD-9 686).

number of persons across coverage categories is then adjusted to Minnesota's total population estimates by age and sex to produce final total cost estimates.

Persons Age 60 or Older

We estimate spending attributed to one or more chronic conditions among residents age 60 or older only among Minnesotans who use services reported in the MN APCD. These persons have private insurance, Medicare, or Medicaid or other public coverage. Persons age 60 or older who are uninsured or have Tricare are omitted from the estimates only because they are too few in the MEPS population sample (the great majority are enrolled in commercial insurance or Medicare) to support stable cost estimates benchmarked to the APCD.

To develop estimates of total spending for chronic conditions, we select all persons age 60 or older in their first enrollment month in 2009 and 2015, respectively—thus, we consider spending only in months when they were at least age 60. A person is identified as having one or more chronic conditions if he or she has at least one EDC flagged by the ACG Chronic Condition Count Marker²¹ as “an alteration in the structures or functions of the body that is likely to last longer than 12 months and is likely to have a negative impact on health or functional status.” We conducted a further clinical expert review of all EDCs and identified several additional EDCs that are generally viewed as chronic.²² The analysis proceeded using the ACG- flagged EDC augmented with these additional conditions.²³ Outliers (identified as persons with per-person-per-month medical or Rx spending that is more than twice the level of per-person-per-month spending at the 99.99 percentile) are removed from the data.

Because the analysis relies only on observation of service users in the MN APCD, we calculate the probability of spending among persons with one or more chronic conditions directly from the data. All persons flagged with a chronic condition have either medical or Rx spending, but might not have both. As a result, although the probabilities of medical and Rx spending, respectively, among persons with a chronic condition are high, each is less than 1. Conversely, the probability of medical and Rx spending, respectively, for persons without a chronic condition (all other persons in the APCD) include persons with no medical or Rx spending.

²¹ See page 50 of The Johns Hopkins ACG® System, Excerpt from Version 11.0 Technical Reference Guide (November 2014) at https://www.healthpartners.com/ucm/groups/public/@hp/@public/documents/documents/cntrb_035024.pdf.

²² These additional EDC codes are: MUS13 (Cervical pain syndromes); NUR04 (Vertiginous syndromes); NUR07 (Seizure disorder); PSY20 (Major depression); SKN02 (Dermatitis and eczema); and SKN12 (Psoriasis).

²³ Note that obesity is not included in the ACG definition of chronic conditions. We separately estimated cost of obesity among those who do not have any chronic conditions.

Estimating per-person-per-month medical and Rx cost

To estimate costs associated with chronic conditions, we specify a series of medical and Rx cost models for three age groups (60–64, 65–74, and 75 or older) and two levels of per-person-per-month spending (in total 12 models) as follows:

- Per-person-per-month spending below the 80th percentile within the person’s age category
- Per-person-per-month spending at or above the 80th percentile within the person’s age category

The models control for diagnoses clinically unrelated to chronic conditions ($X_{\sim CC}$). Some control conditions (X_{int}) are interacted with chronic conditions that can affect the cost treating the control condition but are not known to affect its occurrence.²⁴ The estimated coefficient on chronic conditions captures the impact of EDCs linked to one or more chronic conditions and, therefore, are omitted from the model.²⁵

Estimates of per-person-per-month medical and Rx spending among persons with average spending above \$1 are based on generalized least-squares (log-linked, gamma distribution) regression. The regression models are specified as follows:

- Medical spending per month = $f(\text{AGE, SEX, INCOME, INCOME_SQ, MCR, MCD, CC, } X_{\sim CC}, X_{int}, X_{int} * CC)$
- Rx spending per month = $f(\text{AGE, SEX, INCOME, INCOME_SQ, MCR, MCD, CC, } X_{\sim CC}, X_{int}, X_{int} * CC)$

In these models, AGE, INCOME, and INCOME_SQ are continuous variables. SEX is an indicator variable, as are MCR (Medicare) and MCD (Medicaid or other public coverage). CC is a binary indicator for one or more chronic conditions; $X_{\sim CC}$ and X_{int} are vectors of unrelated conditions and interacted conditions defined as above.

The models are edited (via stepwise regression) to remove variables with statistically insignificant associations with per-person-per-month spending ($p > 0.15$). Only variables with

²⁴ Interacted EDCs are: FRE04, GAS06, GSU02, GSU04, GSU05, NUR15, and REC04.

²⁵ The following EDCs are omitted from the models: ADM02, CAR13, DEN01-04, EAR01, EAR06, EAR09, EYE07, EYE09, FRE02, FRE05, FRE06, FRE08-09, FRE13, GAS08, GAS11, GS106-108, GSU08, GSU10, GSU13-14, GUR06, GUR08, GUR11, HEM02, INF01-02, INF05-06, INF08-09, MUS01, MUS10, MUS12, MUS15-16, NEW03-04, NUR02, NUR10, NUT02, NUT04, PSY06, PSY10, RES01, RES05, RES07, RES14, RHU04, SKN07-09, SKN11, SKN13, SKN16, SKN20, and TOX02.

statistically significant associations with per-person-per-month spending remain in the final specification and contribute to the final spending estimates.

Using the estimated parameters, we calculate per-person-per-month medical and Rx spending for one or more chronic conditions (CC) by age group and gender as the difference between the sum of total expected spending (with CC = actual) and the spending that would occur if no person had chronic conditions (setting CC = 0 for all persons):

- (1) Medical cost of chronic conditions = Med spending (CC = actual) - Med spending (CC = 0)
- (2) Rx cost of chronic conditions = Rx spending (CC = actual) - Rx spending (CC = 0)

Differences between these calculations (at the person level) are summed to produce estimates of total cost among persons age 60 or older in the APCD. Lastly, we estimated cost of obesity among persons age 60 or older who do not have any chronic conditions. The total cost attributed to chronic conditions is the sum of cost attributed to any chronic conditions (excluding obesity) and cost attributed to obesity among those who do not have any chronic conditions.

These estimates are then weighted to the population estimates by source of coverage derived from the ACS to calculate the total cost of chronic conditions among persons age 60 or older in Minnesota.

Estimating total cost

Total medical and Rx spending associated with chronic conditions among persons age 60 or older is calculated as per-person-per-month spending associated with chronic conditions among those with chronic conditions in each coverage category (by age and sex) annualized over 12 months. These calculations assume, in effect, that Minnesotans age 60 or older in very small private insurance plans that do not report to the MN APCD have the same rate of chronic conditions as the average among those in plans that do report.

These percentages are multiplied by the number of persons age 60 or older in 2015 MHAS who reported each coverage status to arrive at a total spending estimate benchmarked to 2015 MHAS. The total number of persons across coverage categories is then adjusted to Minnesota's total population estimates by age and sex to produce final total cost estimates.

Smoking Exposure

To estimate attributed cost for smoking exposure in 2015, we retain the 2014 probability and pmpm cost estimates and update them to change in prices, coverage, and population from 2014 to 2015. In this section, we report the estimation methods underlying the 2014 attributed cost for completeness, updated to 2015 benchmarks.

Because smoking status is not identified in the MN APCD, we used the MEPS national population sample (to obtain information on current smoking status) linked to the Sample Person NHIS, Adult Sample NHIS (to obtain additional information on past smoking status—specifically, time since having quit smoking). To estimate the probability of service and per-person-per-month cost among persons with smoking exposure, we used two three-year periods of MEPS data: 2008–2010 for the 2009 estimates, and 2012–2014 for the 2014 estimates. We adjusted the MEPS person weight for individuals observed in more than one year of the two-year panel.

The MEPS sample was drawn from the prior-year NHIS. Because the MEPS sample includes each sample household for two years, each person has one or two annual responses to the MEPS question about current smoking. Among those that can be matched to NHIS, NHIS asks about current smoking and, if they do not currently smoke, whether they ever smoked and how long since they stopped smoking. MEPS and NHIS question only adults (age 18 to 64) and seniors (age 65 or older) about current or past smoking status.

For each calendar year, the information on smoking obtained by combining MEPS and NHIS for each estimation year is described in Table 1.

Table VI.1. Merged information from 2009 and 2014 MEPS with NHIS

MEPS panel year	2009	2014
First year	<ul style="list-style-type: none"> □ Current smoking status from the 2009 MEPS □ Current smoking status from the 2008 NHIS; also, if not a smoker at time of 2008 NHIS question, whether the person ever smoked and how long ago the person quit 	<ul style="list-style-type: none"> □ Current smoking status from the 2014 MEPS □ Current smoking status from the 2013 NHIS; also, if not a smoker at time of 2013 NHIS question, whether the person ever smoked and how long ago the person quit
Second year	<ul style="list-style-type: none"> □ Current smoking status from the 2009 MEPS □ Current smoking status from the 2008 MEPS □ Current smoking status from 2007 NHIS, if not a smoker at time of 2007 NHIS question; also, if not a smoker at time of 2007 NHIS question, whether the person ever smoked and how long ago the person quit 	<ul style="list-style-type: none"> □ Current smoking status from the 2014 MEPS □ Current smoking status from the 2013 MEPS □ Current smoking status from 2012 NHIS if not a smoker at time of 2012 NHIS question; also, if not a smoker at time of the 2012 NHIS question, whether the person ever smoked and how long ago the person quit

We used three years of the MEPS sample to improve the accuracy of the estimates. For 2009, we combined the 2008–2010 MEPS; for 2014, we combined the 2012–2014 MEPS (the most recent years available at the time the analysis was conducted). Information from MEPS and NHIS were combined to derive information for each data year (analogous to 2009 and 2014 as shown in Table A.5). For example, we matched the 2009 MEPS population sample to their 2007

and 2008 NHIS data and to 2008 MEPS, and we matched the 2014 MEPS population sample to their 2012 and 2013 NHIS data and to 2013 MEPS.

The analyses of the probability of medical and Rx use—and per-person-per-month medical and Rx costs among service users—relied on these matched data. For adults and seniors, we defined six categorical variables for direct smoking (current or past) and second-hand smoking:

- Current smokers (SMOKE_CURRENT) are persons who identified themselves as current smokers in MEPS.
- Nonsmokers (SMOKE_NEVER) are persons who identified themselves as NOT a current smoker in MEPS and never smoker in NHIS.
- Past smokers who quit within the past year (SMOKE_QUIT_PASTYEAR) are persons who identified themselves as NOT a current smoker in MEPS and either a current smoker in the prior year in NHIS or a current smoker in prior year MEPS.
- Past smokers who quit between one and five years ago (SMOKE_QUIT_PAST1_4) are persons who identified themselves as NOT a current smoker in MEPS and quit between one and four years in NHIS.
- Past smokers who quit more than five years ago (SMOKE_QUIT_PAST5) are persons who identified themselves as NOT a current smoker in MEPS and quit more than five years ago in NHIS.
- Persons exposed to secondhand smoking (SMOKE_SH), defined by living in the same dwelling as other family members that currently smoke

The first five categorical variables are mutually exclusive (never smoked is the omitted variable); SMOKE_SH can be 0 or 1 for any person.

We modeled the probability of use and per-person-per-month spending among service users.

Medical service and Rx users were defined as persons with average medical and Rx spending, respectively, equal to at least \$1 per month.

Estimating the probability of medical service and Rx use

The medical service and Rx probability models for 2009 and 2014 were estimated using logistic regression. These models were specified as follows:

- $P(\text{Medical service use}) = f(\text{AGE, SEX, INCOME, MIDWEST, MCR, MCD, UINS, TRI, TBCO, YEAR})$
- $P(\text{Rx use}) = f(\text{AGE, SEX, INCOME, MIDWEST, MCD, MCR, UINS, TRI, TBCO, YEAR})$

In these models, AGE and INCOME are continuous variables; SEX indicates gender; MIDWEST indicates the MEPS Midwest population sample; and MCR, MCD, UINS, and TRI indicate

insurance status during most months of the year (respectively Medicare, Medicaid or other public programs, uninsured, or Tricare). TBCO is a vector of the smoking variables defined above. YEAR is a vector of indicator variables (2008, 2010 and 2012, 2013 respectively) that capture any secular change in each time period relative to the baseline years (2009 and 2014).

We calculated relativity factors from the probability models to benchmark the estimates to the probability of service use in Minnesota. The relativity factors are defined as the ratio of

(1) the probability of medical or Rx spending for a person who is exposed to tobacco (ever smoked, currently exposed to SHS) to (2) the probability of medical spending or Rx for a person who is not exposed in those ways:

- $R_{PMED_TBCO} = \frac{P(\text{Medical service use} | TBCO=1)}{P(\text{Medical service use} | TBCO=0)}$
- $R_{PRX_TBCO} = \frac{P(\text{Rx use} | TBCO=1)}{P(\text{Rx use} | TBCO=0)}$

The probability of medical service among Minnesotans not exposed to tobacco was calculated by solving the following equation for the probability of any service use among persons not exposed to tobacco in the APCD:

$$(1) P_MED_{APCD} = P_TBCO * R_{PMED_TBCO} * P(\text{Medical service use} | TBCO=0) + (1 - P_TBCO) * P(\text{Medical service use} | TBCO=0)$$

$$\Rightarrow P(\text{Medical service use} | TBCO=0) = P_MED_{APCD} / (P_TBCO * R_{PMED_TBCO} + 1 - P_TBCO)$$

In these equations, P_MED_{APCD} is the probability of any service use (regardless of tobacco exposure status) in the APCD. P_TBCO is the probability of tobacco exposure among persons in the MN BRFSS. R_{PMED_TBCO} is the relativity factor defined above, estimated from MEPS.

A probability-of use estimate for Rx adjusted to the APCD and MN BRFSS rates of smoking is calculated analogously, to produce (2):

- $P(\text{Rx use} | TBCO=0) = P_RX_{APCD} / (P_TBCO * R_{PRX_TBCO} + 1 - P_TBCO)$

Medical and Rx spending associated with tobacco exposure among medical service and Rx users were estimated relative to non-exposed adults. The spending estimates were based on generalized least-squares (log-linked, gamma distribution) unique-person-level regression models adults (age 18 to 64). We estimated a medical cost model and an Rx cost model for each of 4 population groups (in total, 4 models):

- Low-cost adults, defined as adults with per-person-per-month spending below the 80th percentile among adults

- High-cost adults, defined as adults with per-person-per-month spending at or above the 80th percentile among adults

Estimating per-person-per-month medical service and Rx cost among service users

Estimates of per-person-per-month spending were based on generalized least-squares (log-linked, gamma distribution) unique-person-level regression models controlling for diagnoses independent of tobacco exposure. Because the models did not control for diagnoses clinically linked to tobacco exposure, the estimated coefficients on tobacco exposure captured their impact on the dependent variable. The models interacted many control conditions with current or past smoking, as smoking can affect the cost treating these conditions, but it is not known to affect their occurrence. A number of rare conditions unrelated to current or past smoking were clustered in a single indicator variable (OTHC_TBCO) to simplify the models. Outliers were defined as persons with medical or Rx average spending per month at or above the 99th percentile of all spenders, calculated separately for adults and seniors, and omitted from the modeling.

The spending models for adults/seniors were specified as follows (using the same specifications for medical and Rx spending):

- Spending per month = f (AGE, SEX, INCOME, MIDWEST, YEAR, TRI, MCD, MCR, UINS, SMOKE_CURRENT, SMOKE_QUIT_PASTYEAR, SMOKE_QUIT_PAST1_4, SMOKE_QUIT_PAST5, SMOKE_SH, DIAB, OBES, ARTH, OTH_CANC_T, DEPR, INJR, DYSL, HIVA, MHSA, BACK, SKIN, PREG, OHD, OTHC_TBCO, OTHC_TBCO_INTR, AGE * SMOKE_CURRENT, AGE * SMOKE_QUIT_PASTYEAR, AGE * SMOKE_QUIT_PAST1_4, AGE * SMOKE_QUIT_PAST5, SEX * SMOKE_CURRENT, SEX * SMOKE_QUIT_PASTYEAR, SEX * SMOKE_QUIT_PAST1_4, SEX * SMOKE_QUIT_PAST5, DIAB * SMOKE_CURRENT, DIAB * SMOKE_QUIT_PASTYEAR, OBES * SMOKE_QUIT_PASTYEAR, OBES * SMOKE_QUIT_PAST1_4, OBES * SMOKE_QUIT_PAST5, DYSL * SMOKE_CURRENT, DYSL * SMOKE_QUIT_PASTYEAR, HIVA * SMOKE_CURRENT, HIVA * SMOKE_QUIT_PASTYEAR, PREG * SMOKE_CURRENT, PREG * SMOKE_QUIT_PASTYEAR, OHD * SMOKE_CURRENT, OHD * SMOKE_QUIT_PASTYEAR, OHD * SMOKE_QUIT_PAST1_4, OHD * SMOKE_QUIT_PAST5, OTHC_TBCO_INTR * SMOKE_CURRENT, OTHC_TBCO_INTR * SMOKE_QUIT_PASTYEAR, OTHC_TBCO_INTR * SMOKE_QUIT_PAST1_4, OTHC_TBCO_INTR * SMOKE_QUIT_PAST5, INJR * SMOKE_CURRENT, AGE * SMOKE_SH, SEX * SMOKE_SH, DIAB * SMOKE_SH, PERS_OBES * SMOKE_SH, INJR * SMOKE_SH, DYSL * SMOKE_SH, HIVA * SMOKE_SH, PREG * SMOKE_SH, OHD * SMOKE_SH, OTHC_TBCO_INTR * SMOKE_SH)

In these specifications, AGE, INCOME, INCOME_SQ, MIDWEST, YEAR, and UNDERWGT are defined as in the probability models. MCR, MCD, TRI, and UINS indicate the person's primary

source of coverage (Medicare, Medicaid or other public coverage, Tricare, or uninsured); private (commercial) insurance is the omitted coverage category.

All other variables are indicator variables for diagnosed conditions: diabetes (DIAB), obesity (OBES), dementia (DEMT), arthritis (ARTH), asthma (ASTH), cancer (CANC), depression (DEPR), injuries (INJ), dyslipidemia (DYSL), HIV-AIDS (HIVA), mental health and substance abuse (MHSA), back conditions (BACK), conditions of the skin (SKIN), pregnancy (PREG), other heard conditions (OHD), and other conditions unrelated to smoking exposure (OTHC_TBCO). The ICD-9 and ICD-10 diagnoses codes that compose these conditions are listed in Appendix Table A.1.

We employed stepwise regression, which successively adds or removes variables based statistical significance ($p > .15$). All variables—including the smoking exposure variables—were allowed to drop from the model if they and none of their interactions terms are statistical significant. Only statistically significant variables remained in the final specification and contribute to the spending estimates.

Medical and Rx spending relativity factors were calculated from the final equations (in categories defined by coverage, age, and sex). The spending relativity factors are the ratio of expected medical service or Rx spending per person per month if all Minnesotans were exposed to tobacco and the medical spending or Rx per person per month that would occur if none were ever exposed in the same ways. The former scenario was estimated by imputing nonsmokers to current or past smokers according their age and sex distribution, while current and past smokers remain unchanged ($TBCO = 1$). All persons were simulated to be exposed to SHS. The latter scenario was estimated with assigning zero to all current, past, and secondhand smoking categories ($TBCO = 0$).

- $R_{MED_TBCO} = \frac{\text{(Predicted medical service per person per month | } TBCO=1)}{\text{(Predicted medical service per person per month | } TBCO=0)}$
- $R_{Rx_TBCO} = \frac{\text{(Predicted Rx per person per month | } TBCO=1)}{\text{(Predicted Rx per person per month | } TBCO=0)}$

We used these relativity factors to estimate medical and Rx spending of never-smokers by solving the following equations for $MED_{TBCO=0}$ and $Rx_{TBCO=0}$, which measure the spending that would occur if no Minnesota resident had ever smoked:

- (1) $MED_{APCD} = (P_TBCO * R_{MED_TBCO} * \text{(Predicted medical service per person per month | } TBCO = 0)) + (1 - P_TBCO) * MED_{TBCO=0}$
 - $MED_{TBCO=0} = MED_{APCD} / (P_TBCO * R_{MED_TBCO} + 1 - P_TBCO)$
- (2) $Rx_{APCD} = (P_TBCO * R_{Rx_TBCO} * \text{(Predicted Rx per person per month | } TBCO = 0)) + (1 - P_TBCO) * Rx_{TBCO=0}$
 - $Rx_{TBCO=0} = Rx_{APCD} / (P_TBCO * R_{Rx_TBCO} + 1 - P_TBCO)$

In the equations above, MED_{APCD} and RX_{APCD} are actual medical and Rx spending per person per month among service users in the APCD, aggregated across all persons; P_{TBCO} is the probability that an individual is exposed to smoking, estimated from the MN BRFSS; and $R_{MED_{TBCO}}$ and $R_{RX_{TBCO}}$ are the estimated spending relativity factors, as defined above.

Medical and Rx spending (respectively) per person per month attributed to smoking were calculated as the difference between estimated spending if no Minnesotan was exposed to smoking and actual spending in 2009 or 2014:

$$(3) (P_{MED_{APCD}} * MED_{APCD}) - (P(\text{Medical service use} \mid TBCO=0) * MED_{TBCO=0})$$

$$(4) (P_{RX_{APCD}} * RX_{APCD}) - (P(\text{Rx use} \mid TBCO=0) * MED_{TBCO=0})$$

Estimating total cost

Total cost is calculated as spending per person per month attributed to smoking (by coverage, age, and sex) annualized over 12 months. The number of smoking Minnesotans (by age and sex) in each coverage category is estimated as the total percentage of Minnesotans reported as exposed to tobacco in the MN BRFSS, multiplied by (1) the MEPS percentage of all smoking persons in that coverage category in 2014 and (2) the number of persons reported in the 2015 MHAS in that coverage category. The total number of persons across coverage categories is benchmarked to the total Minnesota population by age and sex to produce the final total cost estimates.

Obesity

To estimate the probability of service and per-person-per-month cost among persons with obesity, we use two multi-year periods of MEPS data: 2008–2010 for the 2009 estimates, and 2012–2015 for the 2015 estimates. MEPS is a much smaller dataset compared with APCD, therefore we used multiple years of MEPS data to achieve better precision in estimating cost associated with obesity. We adjust the MEPS person weight for individuals observed in more than one year of the two-year panel. Outliers are defined separately for children and adults, as persons with medical or Rx average spending per month at or above the 99.90th percentile among all persons with spending greater than \$1, and removed from the data. We were unable to discern any reasonable cost per person attributed to obesity among seniors, so ultimately dropped them from the analysis.

Obesity is defined as a dichotomized indicator.²⁶ Adults age 18 to 64 with reported body mass index (BMI) of 30.0 or more, and children age 10 to 18 with BMI greater than the 95th percentile in the United States for their age-gender category are defined as obese.^{27,28}

Estimating the probability of medical service and Rx use

The probabilities of medical service and Rx use, respectively, are estimated using logistic regression models, specified as:

- $P(\text{Medical service use}) = f(\text{AGE, SEX, INCOME, MIDWEST, calendar year indicators, MCR, MCD, UINS, TRI, OBES, UNDERWGT, YEAR})$
- $P(\text{Rx use}) = f(\text{AGE, SEX, INCOME, MIDWEST, calendar year indicators, MCR, MCD, UINS, TRI, OBES, UNDERWGT, YEAR})$

In these models, AGE and INCOME are continuous variables, and all other variables are dichotomous. UNDERWGT is an indicator for underweight persons, defined as reported BMI of less than 18.5 for adults and BMI less than the 5th percentile in the United States for children by age-gender category. YEAR is a vector of calendar-year indicators to capture any secular change relative to the years of interest (2009 and 2015) in each time period. MIDWEST is an indicator variable that controls for the effects of presence in the MEPS Midwest population sample.

We estimate the change in the probability of service use that would occur if no Minnesotan were obese by calculating relativity factors (in categories defined by coverage, age, and sex) from the logistic regression models above. The relativity factors are defined as the ratio of (1) the probability of medical or Rx spending among obese persons to (2) the probability of medical spending or Rx among non-obese persons:

- $R_{MED_OBES} = \frac{(\text{Medical service use} | OBES=1)}{(\text{Medical service use} | OBES=0)}$
- $R_{Rx_OBES} = \frac{(\text{Rx use} | OBES=1)}{(\text{Rx use} | OBES=0)}$

²⁶ We tested BMI as a continuous variable but found that a dichotomous variable predicted with slightly better precision as well as performance on common model selection criteria including the Akaike information criterion and Bayesian information criterion. In addition, a continuous BMI would require assignment of every obese or non-obese person, respectively, a specific alternative weight to estimate the cost of obesity, an approach that likely would introduce false precision.

²⁷ See the CDC guideline for adult obesity at <https://www.cdc.gov/obesity/adult/defining.html>.

²⁸ See the CDC guideline for childhood obesity at <https://www.cdc.gov/obesity/childhood/defining.html>. We omit children under age 9 in order to use the Minnesota rate of obesity estimated from National Survey of Children's Health for children age 10 to 17 to benchmark the estimates.

The probability of medical service use among Minnesotans who are non-obese is calculated by solving the following equation for the probability of any service use among non-obese persons in the MN APCD (v19):

$$(1) P_MED_{APCD} = P_OBES * R_{PMED_OBES} * P(\text{Medical service use} \mid OBES = 0) + (1 - P_OBES) * P(\text{Medical service use} \mid OBES = 0)$$
$$\Rightarrow P(\text{Medical service use} \mid OBES = 0) = P_MED_{APCD} / (P_OBES * R_{PMED_OBES} + 1 - P_OBES)$$

In the equations above, P_MED_{APCD} is the probability of any service use in the APCD among all persons (whether obese or not); P_OBES is the probability of obesity estimated from the MN BRFSS for adults age 18 or older and from CDC's National Health and Nutrition Examination Survey (NHANES)²⁹ for children; and R_{PMED_OBES} is the probability of medical service relativity factor estimated from MEPS.

A probability-of-use estimate for Rx adjusted to the APCD and MN BRFSS rates of obesity in Minnesota is calculated analogously, to produce:

$$(2) P(\text{Rx use} \mid OBES=0) = P_RX_{APCD} / (P_OBES * R_{PRX_OBES} + 1 - P_OBES)$$

Estimating per-person-per-month medical service and Rx cost among service users

We use the same MEPS data to estimate medical and Rx spending associated with obesity among medical service and Rx users respectively, defining medical service and Rx users as persons with per-person-per-month spending equal to at least \$1. The spending estimates are based on generalized least-squares (log-linked, gamma distribution) unique-person-level regression models.

For each year of interest, we model 5 medical and Rx cost models (in total, 10 models). For children (age 10 to 17), we model medical and Rx costs in two spending categories:

- Low cost, defined as persons with per-person-per-month medical and Rx spending below the 80th percentile within their age category
- High cost, defined as persons with per-person-per-month medical and Rx spending at or above the 80th percentile within their age category

Exploiting their larger sample size, we model adults (ages 18 to 64) in three spending categories:

²⁹ See Childhood Overweight and Obesity Trends at <http://www.ncsl.org/research/health/childhood-obesity-trends-state-rates.aspx#2007>

- Low cost, defined as persons with per-person-per-month medical and Rx spending below the 80th percentile within their age category
- High cost, defined as persons with per-person-per-month medical and Rx spending at or above the 80th percentile but below the 98th percentile within their age category
- Very high cost, defined as persons with per-person-per-month medical and Rx spending at or above the 98th percentile in their age category

In each model, the dependent variable is spending per person per month. The control variables include conditions that are independent of obesity (that is, a change in the rate of obesity would not be expected to change the rate of occurrence of the condition) and exclude diagnoses clinically linked to obesity.³⁰

Controlling for demographic factors, family income, Midwest region, and coverage category, the medical and Rx spending models are specified as follows for adults (age 18-64).³¹

- Medical spending per month = f (AGE, SEX, INCOME, INCOME_SQ, MIDWEST, YEAR, MCR, MCD, TRI, UINS, UNDERWGT, OBES, DEMENT, TBCO, OTH_CANC_O, INJR, HIVA, PNEU, MHSA, SKIN_OBES, PREG, PRNT, PULM_OBES, PERI, RARE, OTHC_OBES, AGE*OBES, AGE*FEMALE, FEMALE*OBES, INJR*OBES, PNEU*OBES, PREG*OBES, PULM_OBES*OBES, PERI*OBES, RARE*OBES)
- Rx spending per month = f (AGE, SEX, INCOME, INCOME_SQ, MIDWEST, YEAR, MCR, MCD, TRI, UINS, UNDERWGT, OBES, DEMENT, TBCO, OTH_CANC_O, INJR, HIVA, PNEU, MHSA, SKIN_OBES, PREG, PULM_OBES, PERI, RARE, OTHC_OBES, AGE*OBES,

³⁰ The diagnoses linked to obesity (and therefore omitted from the specifications) are:

- diabetes (DIAB)
- arthritis (ARTH)
- Asthma (ASTH)
- cancers associated with obesity (CANC_OBES)
- congestive heart failure (CHF)
- coronary heart disease (CHD)
- Hypertension (HPER)
- stroke (STRO)
- other cardiovascular disease (OCVD)
- depression (DEPR)
- dyslipidemia (DYSL)
- back problems (BACK)
- decubitus ulcers (removed from SKIN)
- other or ill-defined heart disease (OTHH)

³¹ 2013–2014 MEPS edits out ICD-9 diagnosis codes that appear in the data fewer than 20 times. For this reason, we are able to control for two conditions (HIVA and PERI) only with respect to the 2012 data used in the 2012–2014 spending models.

AGE*FEMALE, FEMALE*OBES, INJR*OBES, PNEU*OBES, PREG*OBES, PULM_OBES*OBES, PERI*OBES, RARE*OBES)

In these specifications, AGE, INCOME, INCOME_SQ, MIDWEST, YEAR, and UNDERWGT are defined as in the probability models. MCR, MCD, TRI, and UINS indicate the person's primary source of coverage (Medicare, Medicaid or other public coverage, Tricare, or uninsured); private (commercial) insurance is the omitted coverage category.

Several conditions unrelated to obesity and that occur rarely—rheumatic heart disease (RHEU), cardiomyopathy (CARM), and conduction disorders (COND)—are grouped into a single variable (RARE) to maximize degrees of freedom. Some condition variables—pregnancy (PREG), injury (INJR), pneumonia (PNEU), pulmonary disease not related to obesity (PULM_OBES), acute and other pericardial and endocardial disease (PERI), and rare conditions (RARE)—are interacted with obesity; obesity does not affect the occurrence of these conditions but can affect the health outcomes and cost of treating them.

Similar spending models are used for children. Because HIV-AIDS (HIVA), dementia (DEMT), and acute and other pericardial and endocardial disease (PERI) are rare among children, these conditions are combined with other rare conditions (RARE) and included from the spending models.

The models are edited (via stepwise regression) to remove variables with statistically insignificant associations with per-person-per-month spending ($p > 0.15$). Only variables with statistically significant associations with per-person-per-month spending remain in the final specification and contribute to the final spending estimates.

We estimate the change in the per-person-per-month cost of medical services and Rx among persons who use medical services and Rx (respectively) that would occur if no Minnesotan were obese by calculating relativity factors, analogous to the relativity factors estimated for the probability of service use. The service use and Rx use relativity factors (in categories defined by coverage, age, and sex) are calculated from the final regression models described above in each reference year.

The spending relativity factors are defined as the ratio of expected medical service or Rx spending per person per month if all Minnesotans were obese (estimated with OBES = 1) and per-person-per-month medical spending or Rx that would occur if none were obese (estimated with OBES = 0):

- $R_{MED_OBES} = \frac{(\text{Predicted medical service per person per month } |OBES=1)}{(\text{Predicted medical service per person per month } |OBES=0)}$
- $R_{Rx_OBES} = \frac{(\text{Predicted Rx per person per month } |OBES=1)}{(\text{Predicted Rx per person per month } |OBES=0)}$

In all calculations, the weight of persons who are underweight or pregnant is assumed not to change.³²

We use these relativity factors to estimate per-person-per-month medical and Rx spending among non-obese persons by solving the following equations for MED_{NON-OBES} (predicted medical services spending per person per month if OBES = 0) and Rx_{NON-OBES} (predicted Rx spending per person per month if OBES = 0):

$$(1) \text{MED}_{\text{APCD}} = (\text{P}_{\text{OBES}} * \text{R}_{\text{MED}_{\text{OBES}}} * \text{MED}_{\text{NON-OBES}} + (1 - \text{P}_{\text{OBES}}) * \text{MED}_{\text{NON-OBES}}$$

$$\text{➤ } \text{MED}_{\text{NON-OBES}} = \text{MED}_{\text{APCD}} / (\text{P}_{\text{OBES}} * \text{R}_{\text{MED}_{\text{OBES}}} + 1 - \text{P}_{\text{OBES}})$$

$$(2) \text{RX}_{\text{APCD}} = (\text{P}_{\text{OBES}} * \text{R}_{\text{RX}_{\text{OBES}}} * \text{RX}_{\text{NON-OBES}} + (1 - \text{P}_{\text{OBES}}) * \text{RX}_{\text{NON-OBES}}$$

$$\text{➤ } \text{RX}_{\text{NON-OBES}} = \text{RX}_{\text{APCD}} / (\text{P}_{\text{OBES}} * \text{R}_{\text{RX}_{\text{OBES}}} + 1 - \text{P}_{\text{OBES}})$$

In the equations above, MED_{APCD} and Rx_{APCD} are actual medical and Rx spending per person per month among service users in the APCD (whether or not obese), benchmarking the estimates to spending levels in the APCD; P_{OBES} is the probability of an individual being obese, estimated from the MN BRFSS or NHANES; and R_{MED_OBES} and R_{RX_OBES} are the estimated spending relativity factors.

Per-person-per-month medical and Rx spending associated with obesity are separately calculated as the difference between predicted spending per person per month if no Minnesotan were obese and actual spending per person per month in each year:

$$(3) (\text{P}_{\text{MEDAPCD}} * \text{MED}_{\text{APCD}}) - (\text{P}_{\text{MEDNON-OBES}} * \text{MED}_{\text{NON-OBES}})$$

$$(4) (\text{P}_{\text{RXAPCD}} * \text{RX}_{\text{APCD}}) - (\text{P}_{\text{RXNON-OBES}} * \text{RX}_{\text{NON-OBES}})$$

Estimating total cost

Total medical and Rx spending associated with obesity in each coverage category is calculated as estimated spending per person per month associated with obesity among obese persons (by age and sex), annualized over 12 months and multiplied by the estimated number of obese persons in each coverage category. The number of obese Minnesotans (by age and sex) in each coverage category is estimated as the percentage of all Minnesotans reported as obese in MN BRFSS (adults) or NHANES (children) multiplied by the MEPS percentage of all obese persons in that coverage category and multiplied by the number of persons reported in MHAS in that coverage category. The total number of persons across coverage categories is benchmarked to Minnesota's total population estimates by age and sex to produce final total cost estimates.

³² Because MEPS does not adjust BMI for stages of pregnancy or otherwise identify obesity during pregnancy, we do not attempt to estimate the potential cost associated with obesity among pregnant women.

Aggregate Spending for Selected Chronic Conditions under Age 60

To compare actual and projected spending attributed to selected chronic conditions without double-counting, we developed a separate aggregate estimate of spending attributed to the selected chronic conditions among the population under age 60. This method avoids double-counting spending among persons age 60-64 (attributed spending for these conditions is already incorporated in the estimates developed for the population age 60 or older), and it avoids double counting across conditions among Minnesotans with more than one of the chronic conditions.

We estimate total spending attributed to any (or any combination of) the selected chronic conditions (hypertension, diabetes, dementia, or obesity) by summing across the following estimates:

- For persons with Medicare, private insurance, or Medicaid or other public coverage, we estimate probability-of-use and per-month spending models using the MN APCD and MEPS, as follows:
 - Using the MN APCD, we estimate a probability model that controls jointly for any or any combination of three selected conditions: hypertension or diabetes or dementia. We estimate spending-per-month models (for adults and children by spending level) controlling jointly for any of the conditions, and also for comorbidities unrelated to any of the conditions. Because the model does not control for obesity (which rarely occurs in diagnosis coding), the coefficient estimated for the joint condition indicator picks up spending related to obesity to the extent that it correlates with the joint condition indicator.
 - From MEPS, we model per-month spending attributed to obesity among persons who do not have hypertension, diabetes, or dementia. Obesity is defined as having a diagnosis of obesity or by reference to BMI. The probability and spending models estimated for this population are identical to the models described in Section V.
- For persons enrolled in Tricare or who are uninsured, we estimate probability-of-use and per-month spending models using MEPS. These models control jointly for any of the three selected conditions plus obesity defined by diagnosis or BMI. The spending model further controls for comorbidities unrelated to any of these conditions.

The total cost estimates are calculated by a simulation exercise analogous to that described for the population age 60 or older.

Spending Projections

We project the 2009 estimates for each condition/behavior to 2017 using the distribution of coverage in Minnesota reported in Minnesota Health Access Survey (MHAS, available in selected years including 2015 and 2017) and the American Community Survey (in all other years). The distribution of coverage in each age/sex group is assumed to remain at 2017 levels through 2025. The projections for each condition assume that the prevalence rate within each age/sex group remains at 2009 levels through 2025.

To project the estimates to 2025, we benchmark to Minnesota population projections by age and sex developed by the Minnesota State Demographic Center. Any further changes in the mix of coverage from 2015 forward or the prevalence of conditions from 2009 forward are driven only by changes in the size and age/sex distribution of the projected population.

Costs in each year are inflated by a price index derived from (1) the medical component of the Bureau of Labor Statistics' Consumer Price Index – Urban Consumers (CPI-U), nationally and for Minneapolis-St. Paul (MSP); and (2) the Centers for Medicare & Medicaid Services (CMS) National Health Expenditure Accounts (NHEA) estimates and price index, and the CMS State Health Expenditure Accounts (SHEA) estimates for Minnesota. The MSP CPI-U reflects medical-component price increases that are steeper than the national CPI-U medical component, consistent with other analyses conducted for and by MDH. Therefore, it is important that projected spending in Minnesota reflect this faster price growth relative to the national average, when comparing with actual spending in 2015 (at actual 2015 prices).

To develop a Minnesota-specific price index for medical services, we assume that pharmacy prices in Minnesota rise at the national average, and remove pharmacy spending in each year from the NHEA price index, the national CPI-U, and the MSP CPI-U.³³ We remove pharmacy spending from the MSP CPI-U using historic pharmacy spending as a percentage of total personal health care spending in the Minnesota SHEA, updated to each projection year by the 3- year moving average. We take the ratio of NHEA medical services index to the national CPI-U to develop an adjustment factor reflecting differences between the two indices in the weighting of all components of spending, and multiply this factor by the MSP net CPI-U. This adjustment yields a price index for medical services in Minnesota that rises faster than the national NHEA price index, resulting in medical services price growth that is about two percentage points higher in Minnesota than national price growth from 2009 to 2014.

³³ The NHEA price index reflects all services purchased during the year; the CPI-U indices reflect only consumer direct spending for medical services. In the NHEA index, pharmacy spending represents 11 percent of total spending; in the CPI-U, pharmacy spending represents 18 percent of total spending. BLS does not publish a consumer price index for pharmacy spending that is separate from the medical component of the CPI-U.

Methodological Challenges and Limitations

The methods used to produce cost estimates reflect a number of issues related to the reporting of diagnoses in claims and encounter data—including low rates of (or no) diagnostic coding for some conditions, estimates for payers that do not report to the APCD, and the inability to observe some factors that affect health care spending. The limitations described below are similar or identical to those described in our 2017 report,³⁴ with the notable exception of transitioning from ICD-9 to ICD-10 diagnostic coding in the MN APCD as described below.

Diagnostic coding

The estimates of 2009 and 2015 spending associated with the selected conditions and risk behaviors reflect the strengths and limitations of analyses based on claims data. Although paid claims enable identification of detailed diagnoses likely to be more accurate and specific than self-reported information, some prevalent conditions—including obesity, smoking status, and prediabetes—are poorly captured in claims data.

In this study, spending attributed to obesity is estimated using relative cost factors derived from the 2009 and 2015 MEPS public use data adjusted to the Midwest population sample. The MEPS data do not represent Minnesota independent of other Midwestern states, nor do they include spending for long-term care for persons who reside in nursing homes or other institutions. As a result, the obesity cost estimates reflect two major assumptions:

- The relative probability of service use and the relative cost of acute care services in Minnesota because of obesity is equal to the average (by age and sex) among all Midwestern states.
- Long-term care costs in the APCD because of obesity are higher in the same proportion as acute care costs.

Our estimates of the medical cost of tobacco exposure also rely on the MN BRFSS and MEPS, and are affected by the same data issues as limit the estimates of obesity. However, in addition, the estimates of tobacco exposure are limited by these surveys' questioning—and the questioning in MEPS, in particular. MEPS asks a single question about the respondent's current smoking status, and asks this question of only respondents age 18 or older. Consequently, we use linked MEPS and NHIS data instead.

Cost estimates for diabetes include only persons with a medical claim and at least one primary or secondary diagnosis of diabetes. However, many people with diabetes might be

³⁴ Methods used to estimate 2014 attributed cost are documented in Chollet, D., J. Li, T. Bell, and Q. Shang, "The Cost of Selected Chronic Diseases and Smoking Exposure." Report submitted to the Minnesota Department of Health (revised November 30, 2017).

undiagnosed, and many more might have prediabetes, which does not correspond to a diagnostic code in medical claims data. Although prediabetes is largely addressed by changes in diet and exercise, in some cases a drug to help control glucose might be prescribed. In the 2009 MN APCD, just 0.3 percent of persons with no diabetes diagnosis and 1.0 percent of those with no medical claims in the APCD had any claim for a glucose control drug such as metformin or glipizide. Nevertheless, the indirect costs of persons with prediabetes might exceed their direct cost, and neither is reflected in the estimates.

Lastly, 2013–2015 MEPS removes ICD-9 diagnosis codes that appear in the data fewer than 20 times. For this reason, we are not able to control for some rare conditions such as HIV-AIDS (HIVA) or acute and other pericardial and endocardial disease (PERI) in our 2014 MEPS spending models.

In future analyses, other factors might complicate comparison of prevalence and therefore spending for chronic conditions over time. Such factors will include the introduction of more explicit/refined diagnosis coding (including but not limited to use of ICD10 coding) and changes in clinical thresholds (such as the 2017 American College of Cardiology/American Heart Association Guideline for the Prevention, Detection, Evaluation and Management of High Blood Pressure) that trigger diagnosis and treatment.

ICD-9 to ICD-10 code conversion

Since October 1, 2015, health care providers, health plans, and health care clearinghouses have used the International Classification of Diseases, Tenth Revision (ICD-10) system to classify and code diagnoses, symptoms, and procedures codes.³⁵ Since the change in ICD systems occurred during the calendar year, the 2015 MN APCD includes both sets of codes.

The change from ICD-9 (which had been in use since 1979) to ICD-10 was driven by the need for more clinically accurate data about patients' medical conditions and hospital inpatient procedures.³⁶ Compared with ICD-9, ICD-10 includes nearly five times as many diagnosis codes (nearly 70,000 codes).

Using the list of ICD-9 diagnosis codes that we used to define chronic conditions in earlier work (for calendar year 2014), we mapped each condition to one or more ICD-10 classifications using

³⁵ Centers for Disease Control and Prevention (Oct 1, 2015). International Classification of Diseases, (ICD-10-CM/PCS) transition – background. Retrieved on April 10, 2018 from https://www.cdc.gov/nchs/icd/icd10cm_pcs_background.htm

³⁶ Centers for Medicare & Medicaid Services (July 31, 2014). Deadline for ICD-10 allows health care industry ample time to prepare for change. Retrieved on April 10, 2018 from <https://www.cms.gov/Newsroom/MediaReleaseDatabase/Press-releases/2014-Press-releases-items/2014-07-31.html>

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a proprietary tool to search ICD-9 to ICD-10 diagnosis and procedure code general equivalence mappings (GEMS). The updated chronic conditions definitions using the list of ICD-10 codes are reported in Table A.1.

An ICD-9 diagnosis code can map to more than one ICD-10 code and conversely, an ICD-10 code can map to more than one ICD9-defined condition. Alternative mappings and our resolution for each are described below:

- If an ICD9 code that helped define a condition mapped to more than one ICD10 code, then all of the ICD10 codes were assigned to that condition. This is common due to the much greater specificity of the ICD10 codes.
- If two ICD9 codes (each contributing to a different condition) map to the same ICD10 code, the ICD10 code is included in both conditions. As a result, some individuals that had been coded as having a single condition became coded as having multiple conditions.

The estimated prevalence of chronic conditions in 2014 (based on ICD-9 coding) and 2015 (based on approximately 9 months of ICD-9 coding and 3 months of ICD-10 coding) are reported in Table.

Table IX.2. Number of persons, prevalence of conditions of interest, and prevalence of comorbidities: diabetes, hypertension, and dementia

Condition of interest	2015		2014	
	Number of persons (000s)	Percent	Number of persons (000s)	Percent
Diabetes	332,865	7.90%	315,506	7.80%
Hypertension	1,027,157	24.40%	962,637	23.70%
Dementia	48,319	1.50%	48,342	1.50%
Prevalence of other conditions among persons with or without the condition of interest:				
Diabetes				
Persons with diabetes	332,865	n/a	315,506	n/a
Any diabetes-related condition	264,966	79.60%	253,634	80.40%
Any diabetes-unrelated condition	327,257	98.30%	310,266	98.30%
Persons without diabetes	3,871,553	n/a	3,738,364	n/a
Any diabetes-related condition	1,427,179	36.90%	1,346,809	36.00%
Any diabetes-unrelated condition	3,020,631	78.00%	2,922,552	78.20%
Hypertension				
Persons with hypertension	1,027,157	n/a	962,637	n/a
Any hypertension-related condition	819,331	79.80%	766,211	79.60%
Any hypertension-unrelated condition	944,284	91.90%	888,791	92.30%
Persons without hypertension	3,177,260	n/a	3,091,233	n/a
Any hypertension-related condition	874,497	27.50%	837,894	27.10%
Any hypertension-unrelated condition	2,321,816	73.10%	2,271,045	73.50%
Dementia				
Persons with dementia	48,319	n/a	48,342	n/a
Any dementia-related condition	29,025	60.10%	29,124	60.20%
Any dementia-unrelated condition	48,209	99.80%	48,234	99.80%
Persons without dementia	3,212,072	n/a	3,194,297	n/a
Any dementia-related condition	755,543	23.50%	748,938	23.40%
Any dementia-unrelated condition	2,806,013	87.40%	2,781,635	87.10%

Source: Mathematica Policy Research.

Payers that do not report to the MN APCD

Not all Minnesotans are represented in the APCD. Specifically, small private payers do not report claims data to the APCD, nor do several public payers—including Tricare, the Veterans Health Administration, and the Indian Health Service. Moreover, the APCD does not account for medical expenditures that do not result in claims—including expenditures by uninsured residents and expenditures for care that is not covered.

The estimates are adjusted to account for each payer that does not report. The adjustment for non-reporting small payers assumes that payments pmpm in plans that do not report equal the average among those that do report. The adjustments for Tricare members and uninsured residents, which are based on analysis of medical expenditures among Tricare enrollees and the uninsured represented in the 2009, 2014, and 2015 public use MEPS data, assume that the incidence and cost of each chronic condition or risk behavior among Tricare enrollees and the uninsured in Minnesota, relative to the privately insured population, are the same as the average in all Midwest states.

Finally, spending for services and medical equipment not covered by their health insurance plans, as well as covered services beyond annual or lifetime limits on coverage, might not be reported. Before 2014, when federal health care reforms were fully implemented, covered benefits might have varied widely. The largest single omissions from the claims data might be prescription drug and mental health and substance abuse services among persons enrolled in private health insurance plans, as well as long-term care spending among persons not enrolled in Medicaid.

Unobserved factors that affect projected health care spending

The estimates control for a large number of diagnoses, as well as a resident's age and gender. However, various characteristics that might affect expenditures—such as race and ethnicity—are not observed. As in any analysis of this type, failure to control for an unobserved characteristic that is systematically related the outcome variable can result in projections that are too high or too low, if that characteristic changes over time.

The projections also do not account for other changes that could occur over the course of a decade—including changes in disease prevalence (other than associated with changes in the age and sex distribution of the population) health insurance coverage (other than aging into Medicare), changes in medical technology that affect cost, the introduction of new drugs that can affect cost, or current high-cost drugs going off-patent. Although such “steady state” assumptions are usual when making projections, they can lead to significant error especially in later years of the projection period.

Appendix 7: ICD-9, ICD-10, and ACG Codes Used to Define Conditions in MEPS and the MN APCD

Table A.1. ICD-9, ICD-10, and ACG³⁷ codes used to define conditions in MEPS and the MN APCD

Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
1.	Diabetes (DIAB)	250	362.0, 357.2, 366.41, 250, or ACG definition of DIAB	E08311-E0836, E0840, E0842, E09311-E0936, E0940, E0942, E1010-E139
2.	Obesity (OBES)	Reported BMI	ACG definition of OBES	E65-E68, Z6830-Z6845
3.	Hypertension (HPER)	401-405 twice or more	401-405 twice or more, or ACG definition of HPER	I10, I169, N262
4.	Dementia (DEMT)	290, 331	290, 331.0-331.3, 331.5-331.9	F0150-F0151, F0390, F05, G132-G138, G300-G312, G3183-G319, G910, G912, G914, G937, G94
5.	Tobacco use (TBCO)	Reported current smoker (age 18+)	305.1, 649.01-649.04, V15.82	N/A
6.	Arthritis (ARTH)	714-716	714-716 or ACG definition of ARTH	E08618, E09618, E11618, E08618, E09618, E10618, E11618, E13618, M0500-M0809, M0820-M0899, M1200-M1219, M1250-M1389, M150-M1993
7.	Asthma (ASTH)	493	493 or ACG definition of ASTH	J440-J45998
8.	Any Cancer (CANC)	140-209, 230-239	140-209, 230-239	C000-C866, C882-C964, C969-D099, D3701-D471, D473, D479-D499, Q8500-Q8509
9.	Cancers associated with obesity (CANC_OBES) ³⁸	150, 153, 156, 157, 174 (if AGE>50), 182, 189, 193, 209, 230	n.a. ³⁹	n.a.
10.	Cancers not associated with obesity (OTH_CANC_O)	140-209 230-239 and CANC_OBES = 0	n.a.	n.a.
11.	Cancer associated with diabetes (CANC_DIAB)	153, 155, 157, 174, 175, 179, 182, 188	153, 155, 157, 174, 175, 179, 182, 188	C180-C189, C220-C229, C250-C259, C50011-C50929, C540-C55, C670-C679
12.	Cancer not associated with diabetes (OTH_CANC_D)	140-209, 230-239 and CANC_DIAB = 0	140-209, 230-239 and CANC_DIAB = 0	C000-C179, C19-C218, C23-C249, C260-C4A9, C510-C539, C561-C669, C680-C866, C882-C964, C969-D099, D3701-D471, D473, D479-D499, Q8500-Q8509

³⁷ ACGs are assigned using the Johns Hopkins Adjusted Clinical Groups® system

³⁸ Obesity-related cancers are those reported in: <http://www.cancer.gov/about-cancer/causes-prevention/risk/obesity/obesity-factsheet#q3>

³⁹ Because the smoking and obesity models are estimated using only MEPS, we did not define conditions 9, 10, 13, 14, 30, 35, 37, 41, 49, 50, or 51 in the MN APCD. Various other conditions may include the individual diagnosis codes that would comprise those conditions, as relevant to analyses that use the MN APCD

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
13.	Cancers associated with smoking (CANC_TBCO) ⁴⁰	140-149, 150,151, 157, 160– 162, 180,183, 188, 189, 205, 230, 231,235	n.a.	n.a.
14.	Cancers not associated with smoking (OTH_CANC_T)	140-209, 230-239 and CANC_TBCO = 0	n.a.	n.a.
15.	Congestive heart failure (CHF)	428	428	I501-I509
16.	Coronary artery disease (CAD)	414	414	I2510, I25119, I253, I259
17.	Stroke (STRO)	433-435	433-435	G450-G452, G458-G462, I6300-I669, I67841-I67848
18.	Other cerebrovascular disease (OCVD)	402; 415-417; 420-423; 429; 436-438	402; 415-417; 420-423; 429; 436-438	A1884, G454, G463-G468, I110-I119, I230-I238, I2510, I2601-I2782, I2789-I339, I39-I41, I510-I52, I671-I672, I674-I6782,I6789-I69998, I970-I97191, M3212, T800XXA, T81718A, T8172XA, T82817A, T82818A
19.	Depression (DEPR)	300, 311	ACG definition of DEPR	ACG definition of DEPR
20.	Injuries (INJR)	800-846,848-998	800-846,848-998	A021, A227, A267, A327, A400-A419, A427, A5486, B377,D7801-D7889, E3601-E368, E89810-E8989, G038, G970, G972-G9732, G9748-G9782, H59011-H59369, H59811-H5989, H9521-H9589, I97110-I97191, I973-I9789, J954-J9572, J95830-J95831, J95851-J9589, K6811, K913-K9132, K9161-K91841, K9186-K9189, L0889, L599, L7601-L7682, M1A10X0-M1A19X1,M4840XS, M4841XS, M4842XS, M4843XS, M4844XS, M4845XS, M4846XS, M4847XS, M4848XS, M4850XS, M4851XS, M4852XS, M4853XS, M4854XS, M4855XS, M4856XS, M4857XS, M4858XS, M6790, M8000XS, M80011S, M80012S, M80019S, M80021S, M80022S, M80029S, M80031S,M80032S, M80039S, M80041S, M80042S, M80049S, M80051S, M80052S, M80059S, M80061S, M80062S, M80069S, M80071S, M80072S, M80079S, M8008XS, M8080XS, M80811S, M80812S,M80819S, M80821S, M80822S, M80829S, M80831S, M80832S, M80839S, M80841S, M80842S, M80849S, M80851S, M80852S, M80859S, M80861S, M80862S, M80869S, M80871S, M80872S, M80879S, M8088XS, M8430XS, M84311S, M84312S, M84319S, M84321S, M84322S, M84329S, M84331S, M84332S, M84333S, M84334S, M84339S, M84341S, M84342S, M84343S, M84344S, M84345S, M84346S, M84350S, M84351S, M84352S,

⁴⁰ Tobacco-related cancers are those reported by the CDC, augmented to also include uterine cancer, nasal and paranasal sinus cancers, and cerebrovascular disease (stroke). See <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5745a3.htm>

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				M84353S, M84359S, M84361S, M84362S, M84363S, M84364S, M84369S, M84371S, M84372S, M84373S, M84374S, M84375S, M84376S, M84377S, M84378S, M84379S, M8438XS, M8440XS, M84411S, M84412S, M84419S, M84421S, M84422S, M84429S, M84431S, M84432S, M84433S, M84434S, M84439S, M84441S, M84442S, M84443S, M84444S, M84445S, M84446S, M84451S, M84452S, M84453S, M84454S, M84459S, M84461S, M84462S, M84463S, M84464S, M84469S, M84471S, M84472S, M84473S, M84474S, M84475S, M84476S, M84477S, M84478S, M84479S, M8448XS, M8450XS, M84511S, M84512S, M84519S, M84521S, M84522S, M84529S, M84531S, M84532S, M84533S, M84534S, M84539S, M84541S, M84542S, M84549S, M84550S, M84551S, M84552S, M84553S, M84559S, M84561S, M84562S, M84563S, M84564S, M84569S, M84571S, M84572S, M84573S, M84574S, M84575S, M84576S, M8458XS, M8460XS, M84611S, M84612S, M84619S, M84621S, M84622S, M84629S, M84631S, M84632S, M84633S, M84634S, M84639S, M84641S, M84642S, M84649S, M84650S, M84651S, M84652S, M84653S, M84659S, M84661S, M84662S, M84663S, M84664S, M84669S, M84671S, M84672S, M84673S, M84674S, M84675S, M84676S, M8468XS, M84750S, M84751S, M84752S, M84753S, M84754S, M84755S, M84756S, M84757S, M84758S, M84759S, M960, M96621-M979XXS, M9910-M9919, N981-N990, N99520-N99821, N99840-NODX, R6510-R6521, S0000XA-S020XXB, S020XXS-S02101B, S02101S-S02102B, S02102S-S02109B, S02109S-S0210XB, S0210XS-S02110B, S02110S-S02111B, S02111S-S02112B, S02112S-S02113B, S02113S-S02118B, S02118S-S02119B, S02119S-S0211AB, S0211AS-S0211BB, S0211BS-S0211CB, S0211CS-S0211DB, S0211DS-S0211EB, S0211ES-S0211FB, S0211FS-S0211GB, S0211GS-S0211HB, S0211HS-S0219XB, S0219XS-S022XXB, S022XXS-S0230XB, S0230XS-S0231XB, S0231XS-S0232XB, S0232XS-S023XXB, S023XXS-S02400B, S02400S-S02401B, S02401S-S02402B, S02402S-S0240AB, S0240AS-S0240BB, S0240BS-S0240CB, S0240CS-S0240DB, S0240DS-S0240EB, S0240ES-S0240FB, S0240FS-S02411B, S02411S-S02412B, S02412S-S02413B, S02413S-S0242XB, S0242XS-S025XXB, S025XXS-S02600B, S02600S-S02601B, S02601S-S02602B, S02602S-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S02609B, S02609S-S02610B, S02610S-S02611B, S02611S-S02612B, S02612S-S0261XB, S0261XS-S02620B, S02620S-S02621B, S02621S-S02622B, S02622S-S0262XB, S0262XS-S02630B, S02630S-S02631B, S02631S-S02632B, S02632S-S0263XB, S0263XS-S02640B, S02640S-S02641B, S02641S-S02642B, S02642S-S0264XB, S0264XS-S02650B, S02650S-S02651B, S02651S-S02652B, S02652S-S0265XB, S0265XS-S0266XB, S0266XS-S02670B, S02670S-S02671B, S02671S-S02672B, S02672S-S0267XB, S0267XS-S0269XB, S0269XS-S0280XB, S0280XS-S0281XB, S0281XS-S0282XB, S0282XS-S028XXB, S028XXS-S0291XB, S0291XS-S0292XB, S0292XS-S12000B, S12000S-S12001B, S12001S-S1201XB, S1201XS-S1202XB, S1202XS-S12030B, S12030S-S12031B, S12031S-S12040B, S12040S-S12041B, S12041S-S12090B, S12090S-S12091B, S12091S-S12100B, S12100S-S12101B, S12101S-S12110B, S12110S-S12111B, S12111S-S12112B, S12112S-S12120B, S12120S-S12121B, S12121S-S12130B, S12130S-S12131B, S12131S-S1214XB, S1214XS-S12150B, S12150S-S12151B, S12151S-S12190B, S12190S-S12191B, S12191S-S12200B, S12200S-S12201B, S12201S-S12230B, S12230S-S12231B, S12231S-S1224XB, S1224XS-S12250B, S12250S-S12251B, S12251S-S12290B, S12290S-S12291B, S12291S-S12300B, S12300S-S12301B, S12301S-S12330B, S12330S-S12331B, S12331S-S1234XB, S1234XS-S12350B, S12350S-S12351B, S12351S-S12390B, S12390S-S12391B, S12391S-S12400B, S12400S-S12401B, S12401S-S12430B, S12430S-S12431B, S12431S-S1244XB, S1244XS-S12450B, S12450S-S12451B, S12451S-S12490B, S12490S-S12491B, S12491S-S12500B, S12500S-S12501B, S12501S-S12530B, S12530S-S12531B, S12531S-S1254XB, S1254XS-S12550B, S12550S-S12551B, S12551S-S12590B, S12590S-S12591B, S12591S-S12600B, S12600S-S12601B, S12601S-S12630B, S12630S-S12631B, S12631S-S1264XB, S1264XS-S12650B, S12650S-S12651B, S12651S-S12690B, S12690S-S12691B, S12691S-S1329XS, S134XXS-S135XXS, S138XXS-S159XXS, S161XXS-S22000B, S22000S-S22001B, S22001S-S22002B, S22002S-S22008B, S22008S-S22009B, S22009S-S22010B, S22010S-S22011B, S22011S-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S22012B, S22012S-S22018B, S22018S-S22019B, S22019S-S22020B, S22020S-S22021B, S22021S-S22022B, S22022S-S22028B, S22028S-S22029B, S22029S-S22030B, S22030S-S22031B, S22031S-S22032B, S22032S-S22038B, S22038S-S22039B, S22039S-S22040B, S22040S-S22041B, S22041S-S22042B, S22042S-S22048B, S22048S-S22049B, S22049S-S22050B, S22050S-S22051B, S22051S-S22052B, S22052S-S22058B, S22058S-S22059B, S22059S-S22060B, S22060S-S22061B, S22061S-S22062B, S22062S-S22068B, S22068S-S22069B, S22069S-S22070B, S22070S-S22071B, S22071S-S22072B, S22072S-S22078B, S22078S-S22079B, S22079S-S22080B, S22080S-S22081B, S22081S-S22082B, S22082S-S22088B, S22088S-S22089B, S22089S-S2220XB, S2220XS-S2221XB, S2221XS-S2222XB, S2222XS-S2223XB, S2223XS-S2224XB, S2224XS-S2231XB, S2231XS-S2232XB, S2232XS-S2239XB, S2239XS-S2241XB, S2241XS-S2242XB, S2242XS-S2243XB, S2243XS-S2249XB, S2249XS-S225XXB, S225XXS-S229XXB, S229XXS-S2329XS, S2329XS-S23429S, S238XXS, S239XXS-S32000B, S32000S-S32001B, S32001S-S32002B, S32002S-S32008B, S32008S-S32009B, S32009S-S32010B, S32010S-S32011B, S32011S-S32012B, S32012S-S32018B, S32018S-S32019B, S32019S-S32020B, S32020S-S32021B, S32021S-S32022B, S32022S-S32028B, S32028S-S32029B, S32029S-S32030B, S32030S-S32031B, S32031S-S32032B, S32032S-S32038B, S32038S-S32039B, S32039S-S32040B, S32040S-S32041B, S32041S-S32042B, S32042S-S32048B, S32048S-S32049B, S32049S-S32050B, S32050S-S32051B, S32051S-S32052B, S32052S-S32058B, S32058S-S32059B, S32059S-S3210XB, S3210XS-S32110B, S32110S-S32111B, S32111S-S32112B, S32112S-S32119B, S32119S-S32120B, S32120S-S32121B, S32121S-S32122B, S32122S-S32129B, S32129S-S32130B, S32130S-S32131B, S32131S-S32132B, S32132S-S32139B, S32139S-S3214XB, S3214XS-S3215XB, S3215XS-S3216XB, S3216XS-S3217XB, S3217XS-S3219XB, S3219XS-S322XXB, S322XXS-S32301B, S32301S-S32302B, S32302S-S32309B, S32309S-S32311B, S32311S-S32312B, S32312S-S32313B, S32313S-S32314B, S32314S-S32315B, S32315S-S32316B,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S32316S-S32391B, S32391S-S32392B, S32392S-S32399B, S32399S-S32401B, S32401S-S32402B, S32402S-S32409B, S32409S-S32411B, S32411S-S32412B, S32412S-S32413B, S32413S-S32414B, S32414S-S32415B, S32415S-S32416B, S32416S-S32421B, S32421S-S32422B, S32422S-S32423B, S32423S-S32424B, S32424S-S32425B, S32425S-S32426B, S32426S-S32431B, S32431S-S32432B, S32432S-S32433B, S32433S-S32434B, S32434S-S32435B, S32435S-S32436B, S32436S-S32441B, S32441S-S32442B, S32442S-S32443B, S32443S-S32444B, S32444S-S32445B, S32445S-S32446B, S32446S-S32451B, S32451S-S32452B, S32452S-S32453B, S32453S-S32454B, S32454S-S32455B, S32455S-S32456B, S32456S-S32461B, S32461S-S32462B, S32462S-S32463B, S32463S-S32464B, S32464S-S32465B, S32465S-S32466B, S32466S-S32471B, S32471S-S32472B, S32472S-S32473B, S32473S-S32474B, S32474S-S32475B, S32475S-S32476B, S32476S-S32481B, S32481S-S32482B, S32482S-S32483B, S32483S-S32484B, S32484S-S32485B, S32485S-S32486B, S32486S-S32491B, S32491S-S32492B, S32492S-S32499B, S32499S-S32501B, S32501S-S32502B, S32502S-S32509B, S32509S-S32511B, S32511S-S32512B, S32512S-S32519B, S32519S-S32591B, S32591S-S32592B, S32592S-S32599B, S32599S-S32601B, S32601S-S32602B, S32602S-S32609B, S32609S-S32611B, S32611S-S32612B, S32612S-S32613B, S32613S-S32614B, S32614S-S32615B, S32615S-S32616B, S32616S-S32691B, S32691S-S32692B, S32692S-S32699B, S32699S-S32810B, S32810S-S32811B, S32811S-S3282XB, S3282XS-S3289XB, S3289XS-S329XXB, S329XXS-S334XXS, S335XXS-S42001B, S42001S-S42002B, S42002S-S42009B, S42009S-S42011B, S42011S-S42012B, S42012S-S42013B, S42013S-S42014B, S42014S-S42015B, S42015S-S42016B, S42016S-S42017B, S42017S-S42018B, S42018S-S42019B, S42019S-S42021B, S42021S-S42022B, S42022S-S42023B, S42023S-S42024B, S42024S-S42025B, S42025S-S42026B, S42026S-S42031B, S42031S-S42032B, S42032S-S42033B, S42033S-S42034B, S42034S-S42035B, S42035S-S42036B, S42036S-S42101B, S42101S-S42102B, S42102S-S42109B, S42109S-S42111B,

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				S42111S-S42112B, S42112S-S42113B, S42113S-S42114B, S42114S-S42115B, S42115S-S42116B, S42116S-S42121B, S42121S-S42122B, S42122S-S42123B, S42123S-S42124B, S42124S-S42125B, S42125S-S42126B, S42126S-S42131B, S42131S-S42132B, S42132S-S42133B, S42133S-S42134B, S42134S-S42135B, S42135S-S42136B, S42136S-S42141B, S42141S-S42142B, S42142S-S42143B, S42143S-S42144B, S42144S-S42145B, S42145S-S42146B, S42146S-S42151B, S42151S-S42152B, S42152S-S42153B, S42153S-S42154B, S42154S-S42155B, S42155S-S42156B, S42156S-S42191B, S42191S-S42192B, S42192S-S42199B, S42199S-S42201B, S42201S-S42202B, S42202S-S42209B, S42209S-S42211B, S42211S-S42212B, S42212S-S42213B, S42213S-S42214B, S42214S-S42215B, S42215S-S42216B, S42216S-S42221B, S42221S-S42222B, S42222S-S42223B, S42223S-S42224B, S42224S-S42225B, S42225S-S42226B, S42226S-S42231B, S42231S-S42232B, S42232S-S42239B, S42239S-S42241B, S42241S-S42242B, S42242S-S42249B, S42249S-S42251B, S42251S-S42252B, S42252S-S42253B, S42253S-S42254B, S42254S-S42255B, S42255S-S42256B, S42256S-S42261B, S42261S-S42262B, S42262S-S42263B, S42263S-S42264B, S42264S-S42265B, S42265S-S42266B, S42266S-S42271A, S42271S-S42272A, S42272S-S42279A, S42279S-S42291B, S42291S-S42292B, S42292S-S42293B, S42293S-S42294B, S42294S-S42295B, S42295S-S42296B, S42296S-S42301B, S42301S-S42302B, S42302S-S42309B, S42309S-S42311A, S42311S-S42312A, S42312S-S42319A, S42319S-S42321B, S42321S-S42322B, S42322S-S42323B, S42323S-S42324B, S42324S-S42325B, S42325S-S42326B, S42326S-S42331B, S42331S-S42332B, S42332S-S42333B, S42333S-S42334B, S42334S-S42335B, S42335S-S42336B, S42336S-S42341B, S42341S-S42342B, S42342S-S42343B, S42343S-S42344B, S42344S-S42345B, S42345S-S42346B, S42346S-S42351B, S42351S-S42352B, S42352S-S42353B, S42353S-S42354B, S42354S-S42355B, S42355S-S42356B, S42356S-S42361B, S42361S-S42362B, S42362S-S42363B, S42363S-S42364B, S42364S-S42365B, S42365S-S42366B, S42366S-S42391B, S42391S-S42392B,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S42392S-S42399B, S42399S-S42401B, S42401S-S42402B, S42402S-S42409B, S42409S-S42411B, S42411S-S42412B, S42412S-S42413B, S42413S-S42414B, S42414S-S42415B, S42415S-S42416B, S42416S-S42421B, S42421S-S42422B, S42422S-S42423B, S42423S-S42424B, S42424S-S42425B, S42425S-S42426B, S42426S-S42431B, S42431S-S42432B, S42432S-S42433B, S42433S-S42434B, S42434S-S42435B, S42435S-S42436B, S42436S-S42441B, S42441S-S42442B, S42442S-S42443B, S42443S-S42444B, S42444S-S42445B, S42445S-S42446B, S42446S-S42447B, S42447S-S42448B, S42448S-S42449B, S42449S-S42451B, S42451S-S42452B, S42452S-S42453B, S42453S-S42454B, S42454S-S42455B, S42455S-S42456B, S42456S-S42461B, S42461S-S42462B, S42462S-S42463B, S42463S-S42464B, S42464S-S42465B, S42465S-S42466B, S42466S-S42471B, S42471S-S42472B, S42472S-S42473B, S42473S-S42474B, S42474S-S42475B, S42475S-S42476B, S42476S-S42481A, S42481S-S42482A, S42482S-S42489A, S42489S-S42491B, S42491S-S42492B, S42492S-S42493B, S42493S-S42494B, S42494S-S42495B, S42495S-S42496B, S42496S-S4290XB, S4290XS-S4291XB, S4291XS-S4292XB, S4292XS-S49001A, S49001S-S49002A, S49002S-S49009A, S49009S-S49011A, S49011S-S49012A, S49012S-S49019A, S49019S-S49021A, S49021S-S49022A, S49022S-S49029A, S49029S-S49031A, S49031S-S49032A, S49032S-S49039A, S49039S-S49041A, S49041S-S49042A, S49042S-S49049A, S49049S-S49091A, S49091S-S49092A, S49092S-S49099A, S49099S-S49101A, S49101S-S49102A, S49102S-S49109A, S49109S-S49111A, S49111S-S49112A, S49112S-S49119A, S49119S-S49121A, S49121S-S49122A, S49122S-S49129A, S49129S-S49131A, S49131S-S49132A, S49132S-S49139A, S49139S-S49141A, S49141S-S49142A, S49142S-S49149A, S49149S-S49191A, S49191S-S49192A, S49192S-S49199A, S49199S-S52001C, S52001S-S52002C, S52002S-S52009C, S52009S-S52011A, S52011S-S52012A, S52012S-S52019A, S52019S-S52021C, S52021S-S52022C, S52022S-S52023C, S52023S-S52024C, S52024S-S52025C, S52025S-S52026C, S52026S-S52031C, S52031S-S52032C, S52032S-S52033C,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S52033S-S52034C, S52034S-S52035C, S52035S-S52036C, S52036S-S52041C, S52041S-S52042C, S52042S-S52043C, S52043S-S52044C, S52044S-S52045C, S52045S-S52046C, S52046S-S52091C, S52091S-S52092C, S52092S-S52099C, S52099S-S52101C, S52101S-S52102C, S52102S-S52109C, S52109S-S52111A, S52111S-S52112A, S52112S-S52119A, S52119S-S52121C, S52121S-S52122C, S52122S-S52123C, S52123S-S52124C, S52124S-S52125C, S52125S-S52126C, S52126S-S52131C, S52131S-S52132C, S52132S-S52133C, S52133S-S52134C, S52134S-S52135C, S52135S-S52136C, S52136S-S52181C, S52181S-S52182C, S52182S-S52189C, S52189S-S52201C, S52201S-S52202C, S52202S-S52209C, S52209S-S52211A, S52211S-S52212A, S52212S-S52219A, S52219S-S52221C, S52221S-S52222C, S52222S-S52223C, S52223S-S52224C, S52224S-S52225C, S52225S-S52226C, S52226S-S52231C, S52231S-S52232C, S52232S-S52233C, S52233S-S52234C, S52234S-S52235C, S52235S-S52236C, S52236S-S52241C, S52241S-S52242C, S52242S-S52243C, S52243S-S52244C, S52244S-S52245C, S52245S-S52246C, S52246S-S52251C, S52251S-S52252C, S52252S-S52253C, S52253S-S52254C, S52254S-S52255C, S52255S-S52256C, S52256S-S52261C, S52261S-S52262C, S52262S-S52263C, S52263S-S52264C, S52264S-S52265C, S52265S-S52266C, S52266S-S52271C, S52271S-S52272C, S52272S-S52279C, S52279S-S52281C, S52281S-S52282C, S52282S-S52283C, S52283S-S52291C, S52291S-S52292C, S52292S-S52299C, S52299S-S52301C, S52301S-S52302C, S52302S-S52309C, S52309S-S52311A, S52311S-S52312A, S52312S-S52319A, S52319S-S52321C, S52321S-S52322C, S52322S-S52323C, S52323S-S52324C, S52324S-S52325C, S52325S-S52326C, S52326S-S52331C, S52331S-S52332C, S52332S-S52333C, S52333S-S52334C, S52334S-S52335C, S52335S-S52336C, S52336S-S52341C, S52341S-S52342C, S52342S-S52343C, S52343S-S52344C, S52344S-S52345C, S52345S-S52346C, S52346S-S52351C, S52351S-S52352C, S52352S-S52353C, S52353S-S52354C, S52354S-S52355C, S52355S-S52356C, S52356S-S52361C, S52361S-S52362C, S52362S-S52363C, S52363S-S52364C,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S52364S-S52365C, S52365S-S52366C, S52366S-S52371C, S52371S-S52372C, S52372S-S52379C, S52379S-S52381C, S52381S-S52382C, S52382S-S52389C, S52389S-S52391C, S52391S-S52392C, S52392S-S52399C, S52399S-S52501C, S52501S-S52502C, S52502S-S52509C, S52509S-S52511C, S52511S-S52512C, S52512S-S52513C, S52513S-S52514C, S52514S-S52515C, S52515S-S52516C, S52516S-S52521A, S52521S-S52522A, S52522S-S52529A, S52529S-S52531C, S52531S-S52532C, S52532S-S52539C, S52539S-S52541C, S52541S-S52542C, S52542S-S52549C, S52549S-S52551C, S52551S-S52552C, S52552S-S52559C, S52559S-S52561C, S52561S-S52562C, S52562S-S52569C, S52569S-S52571C, S52571S-S52572C, S52572S-S52579C, S52579S-S52591C, S52591S-S52592C, S52592S-S52599C, S52599S-S52601C, S52601S-S52602C, S52602S-S52609C, S52609S-S52611C, S52611S-S52612C, S52612S-S52613C, S52613S-S52614C, S52614S-S52615C, S52615S-S52616C, S52616S-S52621A, S52621S-S52622A, S52622S-S52629A, S52629S-S52691C, S52691S-S52692C, S52692S-S52699C, S52699S-S5290XC, S5290XS-S5291XC, S5291XS-S5292XC, S5292XS-S59001A, S59001S-S59002A, S59002S-S59009A, S59009S-S59011A, S59011S-S59012A, S59012S-S59019A, S59019S-S59021A, S59021S-S59022A, S59022S-S59029A, S59029S-S59031A, S59031S-S59032A, S59032S-S59039A, S59039S-S59041A, S59041S-S59042A, S59042S-S59049A, S59049S-S59091A, S59091S-S59092A, S59092S-S59099A, S59099S-S59101A, S59101S-S59102A, S59102S-S59109A, S59109S-S59111A, S59111S-S59112A, S59112S-S59119A, S59119S-S59121A, S59121S-S59122A, S59122S-S59129A, S59129S-S59131A, S59131S-S59132A, S59132S-S59139A, S59139S-S59141A, S59141S-S59142A, S59142S-S59149A, S59149S-S59191A, S59191S-S59192A, S59192S-S59199A, S59199S-S59201A, S59201S-S59202A, S59202S-S59209A, S59209S-S59211A, S59211S-S59212A, S59212S-S59219A, S59219S-S59221A, S59221S-S59222A, S59222S-S59229A, S59229S-S59231A, S59231S-S59232A, S59232S-S59239A, S59239S-S59241A, S59241S-S59242A, S59242S-S59249A, S59249S-S59291A, S59291S-S59292A,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S59292S-S59299A, S59299S-S62001B, S62001S-S62002B, S62002S-S62009B, S62009S-S62011B, S62011S-S62012B, S62012S-S62013B, S62013S-S62014B, S62014S-S62015B, S62015S-S62016B, S62016S-S62021B, S62021S-S62022B, S62022S-S62023B, S62023S-S62024B, S62024S-S62025B, S62025S-S62026B, S62026S-S62031B, S62031S-S62032B, S62032S-S62033B, S62033S-S62034B, S62034S-S62035B, S62035S-S62036B, S62036S-S62101B, S62101S-S62102B, S62102S-S62109B, S62109S-S62111B, S62111S-S62112B, S62112S-S62113B, S62113S-S62114B, S62114S-S62115B, S62115S-S62116B, S62116S-S62121B, S62121S-S62122B, S62122S-S62123B, S62123S-S62124B, S62124S-S62125B, S62125S-S62126B, S62126S-S62131B, S62131S-S62132B, S62132S-S62133B, S62133S-S62134B, S62134S-S62135B, S62135S-S62136B, S62136S-S62141B, S62141S-S62142B, S62142S-S62143B, S62143S-S62144B, S62144S-S62145B, S62145S-S62146B, S62146S-S62151B, S62151S-S62152B, S62152S-S62153B, S62153S-S62154B, S62154S-S62155B, S62155S-S62156B, S62156S-S62161B, S62161S-S62162B, S62162S-S62163B, S62163S-S62164B, S62164S-S62165B, S62165S-S62166B, S62166S-S62171B, S62171S-S62172B, S62172S-S62173B, S62173S-S62174B, S62174S-S62175B, S62175S-S62176B, S62176S-S62181B, S62181S-S62182B, S62182S-S62183B, S62183S-S62184B, S62184S-S62185B, S62185S-S62186B, S62186S-S62201B, S62201S-S62202B, S62202S-S62209B, S62209S-S62211B, S62211S-S62212B, S62212S-S62213B, S62213S-S62221B, S62221S-S62222B, S62222S-S62223B, S62223S-S62224B, S62224S-S62225B, S62225S-S62226B, S62226S-S62231B, S62231S-S62232B, S62232S-S62233B, S62233S-S62234B, S62234S-S62235B, S62235S-S62236B, S62236S-S62241B, S62241S-S62242B, S62242S-S62243B, S62243S-S62244B, S62244S-S62245B, S62245S-S62246B, S62246S-S62251B, S62251S-S62252B, S62252S-S62253B, S62253S-S62254B, S62254S-S62255B, S62255S-S62256B, S62256S-S62291B, S62291S-S62292B, S62292S-S62299B, S62299S-S62300B, S62300S-S62301B, S62301S-S62302B, S62302S-S62303B, S62303S-S62304B, S62304S-S62305B,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62305S-S62306B, S62306S-S62307B, S62307S-S62308B, S62308S-S62309B, S62309S-S62310B, S62310S-S62311B, S62311S-S62312B, S62312S-S62313B, S62313S-S62314B, S62314S-S62315B, S62315S-S62316B, S62316S-S62317B, S62317S-S62318B, S62318S-S62319B, S62319S-S62320B, S62320S-S62321B, S62321S-S62322B, S62322S-S62323B, S62323S-S62324B, S62324S-S62325B, S62325S-S62326B, S62326S-S62327B, S62327S-S62328B, S62328S-S62329B, S62329S-S62330B, S62330S-S62331B, S62331S-S62332B, S62332S-S62333B, S62333S-S62334B, S62334S-S62335B, S62335S-S62336B, S62336S-S62337B, S62337S-S62338B, S62338S-S62339B, S62339S-S62340B, S62340S-S62341B, S62341S-S62342B, S62342S-S62343B, S62343S-S62344B, S62344S-S62345B, S62345S-S62346B, S62346S-S62347B, S62347S-S62348B, S62348S-S62349B, S62349S-S62350B, S62350S-S62351B, S62351S-S62352B, S62352S-S62353B, S62353S-S62354B, S62354S-S62355B, S62355S-S62356B, S62356S-S62357B, S62357S-S62358B, S62358S-S62359B, S62359S-S62360B, S62360S-S62361B, S62361S-S62362B, S62362S-S62363B, S62363S-S62364B, S62364S-S62365B, S62365S-S62366B, S62366S-S62367B, S62367S-S62368B, S62368S-S62369B, S62369S-S62390B, S62390S-S62391B, S62391S-S62392B, S62392S-S62393B, S62393S-S62394B, S62394S-S62395B, S62395S-S62396B, S62396S-S62397B, S62397S-S62398B, S62398S-S62399B, S62399S-S62501B, S62501S-S62502B, S62502S-S62509B, S62509S-S62511B, S62511S-S62512B, S62512S-S62513B, S62513S-S62514B, S62514S-S62515B, S62515S-S62516B, S62516S-S62521B, S62521S-S62522B, S62522S-S62523B, S62523S-S62524B, S62524S-S62525B, S62525S-S62526B, S62526S-S62600B, S62600S-S62601B, S62601S-S62602B, S62602S-S62603B, S62603S-S62604B, S62604S-S62605B, S62605S-S62606B, S62606S-S62607B, S62607S-S62608B, S62608S-S62609B, S62609S-S62610B, S62610S-S62611B, S62611S-S62612B, S62612S-S62613B, S62613S-S62614B, S62614S-S62615B, S62615S-S62616B, S62616S-S62617B, S62617S-S62618B, S62618S-S62619B, S62619S-S62620B, S62620S-S62621B, S62621S-S62622B,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62622S-S62623B, S62623S-S62624B, S62624S-S62625B, S62625S-S62626B, S62626S-S62627B, S62627S-S62628B, S62628S-S62629B, S62629S-S62630B, S62630S-S62631B, S62631S-S62632B, S62632S-S62633B, S62633S-S62634B, S62634S-S62635B, S62635S-S62636B, S62636S-S62637B, S62637S-S62638B, S62638S-S62639B, S62639S-S62640B, S62640S-S62641B, S62641S-S62642B, S62642S-S62643B, S62643S-S62644B, S62644S-S62645B, S62645S-S62646B, S62646S-S62647B, S62647S-S62648B, S62648S-S62649B, S62649S-S62650B, S62650S-S62651B, S62651S-S62652B, S62652S-S62653B, S62653S-S62654B, S62654S-S62655B, S62655S-S62656B, S62656S-S62657B, S62657S-S62658B, S62658S-S62659B, S62659S-S62660B, S62660S-S62661B, S62661S-S62662B, S62662S-S62663B, S62663S-S62664B, S62664S-S62665B, S62665S-S62666B, S62666S-S62667B, S62667S-S62668B, S62668S-S62669B, S62669S-S6290XB, S6290XS-S6291XB, S6291XS-S6292XB, S6292XS-S72001C, S72001S-S72002C, S72002S-S72009C, S72009S-S72011C, S72011S-S72012C, S72012S-S72019C, S72019S-S72021C, S72021S-S72022C, S72022S-S72023C, S72023S-S72024C, S72024S-S72025C, S72025S-S72026C, S72026S-S72031C, S72031S-S72032C, S72032S-S72033C, S72033S-S72034C, S72034S-S72035C, S72035S-S72036C, S72036S-S72041C, S72041S-S72042C, S72042S-S72043C, S72043S-S72044C, S72044S-S72045C, S72045S-S72046C, S72046S-S72051C, S72051S-S72052C, S72052S-S72059C, S72059S-S72061C, S72061S-S72062C, S72062S-S72063C, S72063S-S72064C, S72064S-S72065C, S72065S-S72066C, S72066S-S72091C, S72091S-S72092C, S72092S-S72099C, S72099S-S72101C, S72101S-S72102C, S72102S-S72109C, S72109S-S72111C, S72111S-S72112C, S72112S-S72113C, S72113S-S72114C, S72114S-S72115C, S72115S-S72116C, S72116S-S72121C, S72121S-S72122C, S72122S-S72123C, S72123S-S72124C, S72124S-S72125C, S72125S-S72126C, S72126S-S72131C, S72131S-S72132C, S72132S-S72133C, S72133S-S72134C, S72134S-S72135C, S72135S-S72136C, S72136S-S72141C, S72141S-S72142C, S72142S-S72143C, S72143S-S72144C, S72144S-S72145C,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S72145S-S72146C, S72146S-S7221XC, S7221XS-S7222XC, S7222XS-S7223XC, S7223XS-S7224XC, S7224XS-S7225XC, S7225XS-S7226XC, S7226XS-S72301C, S72301S-S72302C, S72302S-S72309C, S72309S-S72321C, S72321S-S72322C, S72322S-S72323C, S72323S-S72324C, S72324S-S72325C, S72325S-S72326C, S72326S-S72331C, S72331S-S72332C, S72332S-S72333C, S72333S-S72334C, S72334S-S72335C, S72335S-S72336C, S72336S-S72341C, S72341S-S72342C, S72342S-S72343C, S72343S-S72344C, S72344S-S72345C, S72345S-S72346C, S72346S-S72351C, S72351S-S72352C, S72352S-S72353C, S72353S-S72354C, S72354S-S72355C, S72355S-S72356C, S72356S-S72361C, S72361S-S72362C, S72362S-S72363C, S72363S-S72364C, S72364S-S72365C, S72365S-S72366C, S72366S-S72391C, S72391S-S72392C, S72392S-S72399C, S72399S-S72401C, S72401S-S72402C, S72402S-S72409C, S72409S-S72411C, S72411S-S72412C, S72412S-S72413C, S72413S-S72414C, S72414S-S72415C, S72415S-S72416C, S72416S-S72421C, S72421S-S72422C, S72422S-S72423C, S72423S-S72424C, S72424S-S72425C, S72425S-S72426C, S72426S-S72431C, S72431S-S72432C, S72432S-S72433C, S72433S-S72434C, S72434S-S72435C, S72435S-S72436C, S72436S-S72441C, S72441S-S72442C, S72442S-S72443C, S72443S-S72444C, S72444S-S72445C, S72445S-S72446C, S72446S-S72451C, S72451S-S72452C, S72452S-S72453C, S72453S-S72454C, S72454S-S72455C, S72455S-S72456C, S72456S-S72461C, S72461S-S72462C, S72462S-S72463C, S72463S-S72464C, S72464S-S72465C, S72465S-S72466C, S72466S-S72471A, S72471S-S72472A, S72472S-S72479A, S72479S-S72491C, S72491S-S72492C, S72492S-S72499C, S72499S-S728X1C, S728X1S-S728X2C, S728X2S-S728X9C, S728X9S-S7290XE, S7290XS-S7291XE, S7291XS-S7292XE, S7292XS-S79001A, S79001S-S79002A, S79002S-S79009A, S79009S-S79011A, S79011S-S79012A, S79012S-S79019A, S79019S-S79091A, S79091S-S79092A, S79092S-S79099A, S79099S-S79101A, S79101S-S79102A, S79102S-S79109A, S79109S-S79111A, S79111S-S79112A, S79112S-S79119A, S79119S-S79121A, S79121S-S79122A, S79122S-S79129A,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S79129S-S79131A, S79131S-S79132A, S79132S-S79139A, S79139S-S79141A, S79141S-S79142A, S79142S-S79149A, S79149S-S79191A, S79191S-S79192A, S79192S-S79199A, S79199S-S82001C, S82001S-S82002C, S82002S-S82009C, S82009S-S82011C, S82011S-S82012C, S82012S-S82013C, S82013S-S82014C, S82014S-S82015C, S82015S-S82016C, S82016S-S82021C, S82021S-S82022C, S82022S-S82023C, S82023S-S82024C, S82024S-S82025C, S82025S-S82026C, S82026S-S82031C, S82031S-S82032C, S82032S-S82033C, S82033S-S82034C, S82034S-S82035C, S82035S-S82036C, S82036S-S82041C, S82041S-S82042C, S82042S-S82043C, S82043S-S82044C, S82044S-S82045C, S82045S-S82046C, S82046S-S82091C, S82091S-S82092C, S82092S-S82099C, S82099S-S82101C, S82101S-S82102C, S82102S-S82109C, S82109S-S82111C, S82111S-S82112C, S82112S-S82113C, S82113S-S82114C, S82114S-S82115C, S82115S-S82116C, S82116S-S82121C, S82121S-S82122C, S82122S-S82123C, S82123S-S82124C, S82124S-S82125C, S82125S-S82126C, S82126S-S82131C, S82131S-S82132C, S82132S-S82133C, S82133S-S82134C, S82134S-S82135C, S82135S-S82136C, S82136S-S82141C, S82141S-S82142C, S82142S-S82143C, S82143S-S82144C, S82144S-S82145C, S82145S-S82146C, S82146S-S82151C, S82151S-S82152C, S82152S-S82153C, S82153S-S82154C, S82154S-S82155C, S82155S-S82156C, S82156S-S82161A, S82161S-S82162A, S82162S-S82169A, S82169S-S82191C, S82191S-S82192C, S82192S-S82199C, S82199S-S82201C, S82201S-S82202C, S82202S-S82209C, S82209S-S82221C, S82221S-S82222C, S82222S-S82223C, S82223S-S82224C, S82224S-S82225C, S82225S-S82226C, S82226S-S82231C, S82231S-S82232C, S82232S-S82233C, S82233S-S82234C, S82234S-S82235C, S82235S-S82236C, S82236S-S82241C, S82241S-S82242C, S82242S-S82243C, S82243S-S82244C, S82244S-S82245C, S82245S-S82246C, S82246S-S82251C, S82251S-S82252C, S82252S-S82253C, S82253S-S82254C, S82254S-S82255C, S82255S-S82256C, S82256S-S82261C, S82261S-S82262C, S82262S-S82263C, S82263S-S82264C, S82264S-S82265C, S82265S-S82266C, S82266S-S82291C,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S82291S-S82292C, S82292S-S82299C, S82299S-S82301C, S82301S-S82302C, S82302S-S82309C, S82309S-S82311A, S82311S-S82312A, S82312S-S82319A, S82319S-S82391C, S82391S-S82392C, S82392S-S82399C, S82399S-S82401C, S82401S-S82402C, S82402S-S82409C, S82409S-S82421C, S82421S-S82422C, S82422S-S82423C, S82423S-S82424C, S82424S-S82425C, S82425S-S82426C, S82426S-S82431C, S82431S-S82432C, S82432S-S82433C, S82433S-S82434C, S82434S-S82435C, S82435S-S82436C, S82436S-S82441C, S82441S-S82442C, S82442S-S82443C, S82443S-S82444C, S82444S-S82445C, S82445S-S82446C, S82446S-S82451C, S82451S-S82452C, S82452S-S82453C, S82453S-S82454C, S82454S-S82455C, S82455S-S82456C, S82456S-S82461C, S82461S-S82462C, S82462S-S82463C, S82463S-S82464C, S82464S-S82465C, S82465S-S82466C, S82466S-S82491C, S82491S-S82492C, S82492S-S82499C, S82499S-S8251XC, S8251XS-S8252XC, S8252XS-S8253XC, S8253XS-S8254XC, S8254XS-S8255XC, S8255XS-S8256XC, S8256XS-S8261XC, S8261XS-S8262XC, S8262XS-S8263XC, S8263XS-S8264XC, S8264XS-S8265XC, S8265XS-S8266XC, S8266XS-S82811A, S82811S-S82812A, S82812S-S82819A, S82819S-S82821A, S82821S-S82822A, S82822S-S82829A, S82829S-S82831C, S82831S-S82832C, S82832S-S82839C, S82839S-S82841C, S82841S-S82842C, S82842S-S82843C, S82843S-S82844C, S82844S-S82845C, S82845S-S82846C, S82846S-S82851C, S82851S-S82852C, S82852S-S82853C, S82853S-S82854C, S82854S-S99101B, S99101S-S99102B, S99102S-S99109B, S99109S-S99111B, S99111S-S99112B, S99112S-S99119B, S99119S-S99121B, S99121S-S99122B, S99122S-S99129B, S99129S-S99131B, S99131S-S99132B, S99132S-S99139B, S99139S-S99141B, S99141S-S99142B, S99142S-S99149B, S99149S-S99191B, S99191S-S99192B, S99192S-S99199B, S99199S-S99201B, S99201S-S99202B, S99202S-S99209B, S99209S-S99211B, S99211S-S99212B, S99212S-S99219B, S99219S-S99221B, S99221S-S99222B, S99222S-S99229B, S99229S-S99231B, S99231S-S99232B, S99232S-S99239B, S99239S-S99241B, S99241S-S99242B, S99242S-S99249B, S99249S-S99291B,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
21.	Injuries not related to diabetes (INJR_DIAB)	800-846,848-997	800-846,848-998 except 998.83	<p>S99291S-S99292B, S99292S-S99299B, S99299S-T79A9XS, T800XXS, T801XXS, T80211S, T80212S, T80218S, T80219S, T8022XS, T8029XS, T8030XS, T80310S, T80311S, T80319S, T8039XS, T8040XS, T80410S, T80411S, T80419S, T8049XS, T8051XS, T8052XS, T8059XS, T8061XS, T8062XS, T8069XS, T80810S, T80818S, T8089XS, T8090XS, T80910S, T80911S, T80919S, T8092XS, T80A0XS, T80A10S, T80A11S, T80A19S, T80A9XS-T8172XS, T8181XS-T836XXS, T83711S-T83719S, T83721S-T879, T880XXS, T881XXS-T883XXS, T884XXS-T886XXS, T887XXS-T888XXS, T889XXS</p> <p>A021, A227, A267, A327, A400-A419, A427, A5486, B377,D7801-D7889, E3601-E368, E89810-E8989, G038, G970, G972-G9732, G9748-G9782, H59011-H59369, H59811-H5989,H9521-H9589, I97110-I97191, I973-I9789, J954-J9572, J95830-J95831, J95851-J9589, K6811, K913-K9132, K9161-K91841, K9186-K9189, L0889, L599, L7601-L7682, M1A10X0-M1A19X1, M4840XS, M4841XS, M4842XS, M4843XS, M4844XS, M4845XS, M4846XS, M4847XS, M4848XS, M4850XS, M4851XS, M4852XS, M4853XS, M4854XS, M4855XS, M4856XS, M4857XS, M4858XS, M6790, M8000XS, M80011S, M80012S, M80019S, M80021S, M80022S, M80029S, M80031S, M80032S, M80039S, M80041S, M80042S, M80049S, M80051S, M80052S, M80059S, M80061S, M80062S, M80069S, M80071S, M80072S, M80079S, M8008XS, M8080XS, M80811S, M80812S, M80819S, M80821S, M80822S, M80829S, M80831S, M80832S, M80839S, M80841S, M80842S, M80849S, M80851S, M80852S, M80859S, M80861S, M80862S, M80869S, M80871S, M80872S, M80879S, M8088XS, M8430XS, M84311S, M84312S, M84319S, M84321S, M84322S, M84329S, M84331S, M84332S, M84333S, M84334S, M84339S, M84341S, M84342S, M84343S, M84344S, M84345S, M84346S, M84350S, M84351S, M84352S, M84353S, M84359S, M84361S, M84362S, M84363S, M84364S, M84369S, M84371S, M84372S, M84373S, M84374S, M84375S, M84376S, M84377S, M84378S, M84379S, M8438XS, M8440XS, M84411S, M84412S, M84419S, M84421S, M84422S, M84429S, M84431S, M84432S, M84433S, M84434S, M84439S, M84441S, M84442S, M84443S, M84444S, M84445S, M84446S, M84451S, M84452S, M84453S, M84454S, M84459S, M84461S, M84462S, M84463S, M84464S, M84469S, M84471S, M84472S, M84473S, M84474S, M84475S, M84476S, M84477S, M84478S, M84479S, M8448XS, M8450XS, M84511S, M84512S, M84519S, M84521S, M84522S, M84529S, M84531S, M84532S, M84533S, M84534S, M84539S, M84541S,</p>

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				M84542S, M84549S, M84550S, M84551S, M84552S, M84553S, M84559S, M84561S, M84562S, M84563S, M84564S, M84569S, M84571S, M84572S, M84573S, M84574S, M84575S, M84576S, M8458XS, M8460XS, M84611S, M84612S, M84619S, M84621S, M84622S, M84629S, M84631S, M84632S, M84633S, M84634S, M84639S, M84641S, M84642S, M84649S, M84650S, M84651S, M84652S, M84653S, M84659S, M84661S, M84662S, M84663S, M84664S, M84669S, M84671S, M84672S, M84673S, M84674S, M84675S, M84676S, M8468XS, M84750S, M84751S, M84752S, M84753S, M84754S, M84755S, M84756S, M84757S, M84758S, M84759S, M960, M96621-M979XXS, M9910-M9919, N981-N990, N99520-N99821, N99840-NODX, R6510-R6521, S0000XA-S020XXB, S020XXS-S02101B, S02101S-S02102B, S02102S-S02109B, S02109S-S0210XB, S0210XS-S02110B, S02110S-S02111B, S02111S-S02112B, S02112S-S02113B, S02113S-S02118B, S02118S-S02119B, S02119S-S0211AB, S0211AS-S0211BB, S0211BS-S0211CB, S0211CS-S0211DB, S0211DS-S0211EB, S0211ES-S0211FB, S0211FS-S0211GB, S0211GS-S0211HB, S0211HS-S0219XB, S0219XS-S022XXB, S022XXS-S0230XB, S0230XS-S0231XB, S0231XS-S0232XB, S0232XS-S023XXB, S023XXS-S02400B, S02400S-S02401B, S02401S-S02402B, S02402S-S0240AB, S0240AS-S0240BB, S0240BS-S0240CB, S0240CS-S0240DB, S0240DS-S0240EB, S0240ES-S0240FB, S0240FS-S02411B, S02411S-S02412B, S02412S-S02413B, S02413S-S0242XB, S0242XS-S025XXB, S025XXS-S02600B, S02600S-S02601B, S02601S-S02602B, S02602S-S02609B, S02609S-S02610B, S02610S-S02611B, S02611S-S02612B, S02612S-S0261XB, S0261XS-S02620B, S02620S-S02621B, S02621S-S02622B, S02622S-S0262XB, S0262XS-S02630B, S02630S-S02631B, S02631S-S02632B, S02632S-S0263XB, S0263XS-S02640B, S02640S-S02641B, S02641S-S02642B, S02642S-S0264XB, S0264XS-S02650B, S02650S-S02651B, S02651S-S02652B, S02652S-S0265XB, S0265XS-S0266XB, S0266XS-S02670B, S02670S-S02671B, S02671S-S02672B, S02672S-S0267XB, S0267XS-S0269XB, S0269XS-S0280XB, S0280XS-S0281XB, S0281XS-S0282XB, S0282XS-S028XXB, S028XXS-S0291XB, S0291XS-S0292XB, S0292XS-S12000B, S12000S-S12001B, S12001S-S1201XB, S1201XS-S1202XB, S1202XS-S12030B, S12030S-S12031B, S12031S-S12040B, S12040S-S12041B, S12041S-S12090B, S12090S-S12091B, S12091S-S12100B, S12100S-S12101B, S12101S-S12110B, S12110S-S12111B, S12111S-S12112B, S12112S-S12120B, S12120S-S12121B, S12121S-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S12130B, S12130S-S12131B, S12131S-S1214XB, S1214XS-S12150B, S12150S-S12151B, S12151S-S12190B, S12190S-S12191B, S12191S-S12200B, S12200S-S12201B, S12201S-S12230B, S12230S-S12231B, S12231S-S1224XB, S1224XS-S12250B, S12250S-S12251B, S12251S-S12290B, S12290S-S12291B, S12291S-S12300B, S12300S-S12301B, S12301S-S12330B, S12330S-S12331B, S12331S-S1234XB, S1234XS-S12350B, S12350S-S12351B, S12351S-S12390B, S12390S-S12391B, S12391S-S12400B, S12400S-S12401B, S12401S-S12430B, S12430S-S12431B, S12431S-S1244XB, S1244XS-S12450B, S12450S-S12451B, S12451S-S12490B, S12490S-S12491B, S12491S-S12500B, S12500S-S12501B, S12501S-S12530B, S12530S-S12531B, S12531S-S1254XB, S1254XS-S12550B, S12550S-S12551B, S12551S-S12590B, S12590S-S12591B, S12591S-S12600B, S12600S-S12601B, S12601S-S12630B, S12630S-S12631B, S12631S-S1264XB, S1264XS-S12650B, S12650S-S12651B, S12651S-S12690B, S12690S-S12691B, S12691S-S1329XS, S134XXS-S135XXS, S138XXS-S159XXS, S161XXS-S22000B, S22000S-S22001B, S22001S-S22002B, S22002S-S22008B, S22008S-S22009B, S22009S-S22010B, S22010S-S22011B, S22011S-S22012B, S22012S-S22018B, S22018S-S22019B, S22019S-S22020B, S22020S-S22021B, S22021S-S22022B, S22022S-S22028B, S22028S-S22029B, S22029S-S22030B, S22030S-S22031B, S22031S-S22032B, S22032S-S22038B, S22038S-S22039B, S22039S-S22040B, S22040S-S22041B, S22041S-S22042B, S22042S-S22048B, S22048S-S22049B, S22049S-S22050B, S22050S-S22051B, S22051S-S22052B, S22052S-S22058B, S22058S-S22059B, S22059S-S22060B, S22060S-S22061B, S22061S-S22062B, S22062S-S22068B, S22068S-S22069B, S22069S-S22070B, S22070S-S22071B, S22071S-S22072B, S22072S-S22078B, S22078S-S22079B, S22079S-S22080B, S22080S-S22081B, S22081S-S22082B, S22082S-S22088B, S22088S-S22089B, S22089S-S2220XB, S2220XS-S2221XB, S2221XS-S2222XB, S2222XS-S2223XB, S2223XS-S2224XB, S2224XS-S2231XB, S2231XS-S2232XB, S2232XS-S2239XB, S2239XS-S2241XB, S2241XS-S2242XB, S2242XS-S2243XB, S2243XS-S2249XB, S2249XS-S225XXB, S225XXS-S229XXB, S229XXS-S2329XS, S233XXS-S23429S, S238XXS, S239XXS-S32000B, S32000S-S32001B, S32001S-S32002B, S32002S-S32008B, S32008S-S32009B, S32009S-S32010B, S32010S-S32011B, S32011S-S32012B, S32012S-S32018B, S32018S-S32019B, S32019S-S32020B, S32020S-S32021B,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S32021S-S32022B, S32022S-S32028B, S32028S-S32029B, S32029S-S32030B, S32030S-S32031B, S32031S-S32032B, S32032S-S32038B, S32038S-S32039B, S32039S-S32040B, S32040S-S32041B, S32041S-S32042B, S32042S-S32048B, S32048S-S32049B, S32049S-S32050B, S32050S-S32051B, S32051S-S32052B, S32052S-S32058B, S32058S-S32059B, S32059S-S3210XB, S3210XS-S32110B, S32110S-S32111B, S32111S-S32112B, S32112S-S32119B, S32119S-S32120B, S32120S-S32121B, S32121S-S32122B, S32122S-S32129B, S32129S-S32130B, S32130S-S32131B, S32131S-S32132B, S32132S-S32139B, S32139S-S3214XB, S3214XS-S3215XB, S3215XS-S3216XB, S3216XS-S3217XB, S3217XS-S3219XB, S3219XS-S322XXB, S322XXS-S32301B, S32301S-S32302B, S32302S-S32309B, S32309S-S32311B, S32311S-S32312B, S32312S-S32313B, S32313S-S32314B, S32314S-S32315B, S32315S-S32316B, S32316S-S32391B, S32391S-S32392B, S32392S-S32399B, S32399S-S32401B, S32401S-S32402B, S32402S-S32409B, S32409S-S32411B, S32411S-S32412B, S32412S-S32413B, S32413S-S32414B, S32414S-S32415B, S32415S-S32416B, S32416S-S32421B, S32421S-S32422B, S32422S-S32423B, S32423S-S32424B, S32424S-S32425B, S32425S-S32426B, S32426S-S32431B, S32431S-S32432B, S32432S-S32433B, S32433S-S32434B, S32434S-S32435B, S32435S-S32436B, S32436S-S32441B, S32441S-S32442B, S32442S-S32443B, S32443S-S32444B, S32444S-S32445B, S32445S-S32446B, S32446S-S32451B, S32451S-S32452B, S32452S-S32453B, S32453S-S32454B, S32454S-S32455B, S32455S-S32456B, S32456S-S32461B, S32461S-S32462B, S32462S-S32463B, S32463S-S32464B, S32464S-S32465B, S32465S-S32466B, S32466S-S32471B, S32471S-S32472B, S32472S-S32473B, S32473S-S32474B, S32474S-S32475B, S32475S-S32476B, S32476S-S32481B, S32481S-S32482B, S32482S-S32483B, S32483S-S32484B, S32484S-S32485B, S32485S-S32486B, S32486S-S32491B, S32491S-S32492B, S32492S-S32499B, S32499S-S32501B, S32501S-S32502B, S32502S-S32509B, S32509S-S32511B, S32511S-S32512B, S32512S-S32519B, S32519S-S32591B, S32591S-S32592B, S32592S-S32599B, S32599S-S32601B, S32601S-S32602B, S32602S-S32609B, S32609S-S32611B, S32611S-S32612B, S32612S-S32613B, S32613S-S32614B, S32614S-S32615B, S32615S-S32616B, S32616S-S32691B, S32691S-S32692B, S32692S-S32699B, S32699S-S32810B, S32810S-S32811B, S32811S-S3282XB, S3282XS-S3289XB,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S3289XS-S329XXB, S329XXS-S334XXS, S335XXS-S42001B, S42001S-S42002B, S42002S-S42009B, S42009S-S42011B, S42011S-S42012B, S42012S-S42013B, S42013S-S42014B, S42014S-S42015B, S42015S-S42016B, S42016S-S42017B, S42017S-S42018B, S42018S-S42019B, S42019S-S42021B, S42021S-S42022B, S42022S-S42023B, S42023S-S42024B, S42024S-S42025B, S42025S-S42026B, S42026S-S42031B, S42031S-S42032B, S42032S-S42033B, S42033S-S42034B, S42034S-S42035B, S42035S-S42036B, S42036S-S42101B, S42101S-S42102B, S42102S-S42109B, S42109S-S42111B, S42111S-S42112B, S42112S-S42113B, S42113S-S42114B, S42114S-S42115B, S42115S-S42116B, S42116S-S42121B, S42121S-S42122B, S42122S-S42123B, S42123S-S42124B, S42124S-S42125B, S42125S-S42126B, S42126S-S42131B, S42131S-S42132B, S42132S-S42133B, S42133S-S42134B, S42134S-S42135B, S42135S-S42136B, S42136S-S42141B, S42141S-S42142B, S42142S-S42143B, S42143S-S42144B, S42144S-S42145B, S42145S-S42146B, S42146S-S42151B, S42151S-S42152B, S42152S-S42153B, S42153S-S42154B, S42154S-S42155B, S42155S-S42156B, S42156S-S42191B, S42191S-S42192B, S42192S-S42199B, S42199S-S42201B, S42201S-S42202B, S42202S-S42209B, S42209S-S42211B, S42211S-S42212B, S42212S-S42213B, S42213S-S42214B, S42214S-S42215B, S42215S-S42216B, S42216S-S42221B, S42221S-S42222B, S42222S-S42223B, S42223S-S42224B, S42224S-S42225B, S42225S-S42226B, S42226S-S42231B, S42231S-S42232B, S42232S-S42239B, S42239S-S42241B, S42241S-S42242B, S42242S-S42249B, S42249S-S42251B, S42251S-S42252B, S42252S-S42253B, S42253S-S42254B, S42254S-S42255B, S42255S-S42256B, S42256S-S42261B, S42261S-S42262B, S42262S-S42263B, S42263S-S42264B, S42264S-S42265B, S42265S-S42266B, S42266S-S42271A, S42271S-S42272A, S42272S-S42279A, S42279S-S42291B, S42291S-S42292B, S42292S-S42293B, S42293S-S42294B, S42294S-S42295B, S42295S-S42296B, S42296S-S42301B, S42301S-S42302B, S42302S-S42309B, S42309S-S42311A, S42311S-S42312A, S42312S-S42319A, S42319S-S42321B, S42321S-S42322B, S42322S-S42323B, S42323S-S42324B, S42324S-S42325B, S42325S-S42326B, S42326S-S42331B, S42331S-S42332B, S42332S-S42333B, S42333S-S42334B, S42334S-S42335B, S42335S-S42336B, S42336S-S42341B, S42341S-S42342B, S42342S-S42343B, S42343S-S42344B, S42344S-S42345B, S42345S-S42346B,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S42346S-S42351B, S42351S-S42352B, S42352S-S42353B, S42353S-S42354B, S42354S-S42355B, S42355S-S42356B, S42356S-S42361B, S42361S-S42362B, S42362S-S42363B, S42363S-S42364B, S42364S-S42365B, S42365S-S42366B, S42366S-S42391B, S42391S-S42392B, S42392S-S42399B, S42399S-S42401B, S42401S-S42402B, S42402S-S42409B, S42409S-S42411B, S42411S-S42412B, S42412S-S42413B, S42413S-S42414B, S42414S-S42415B, S42415S-S42416B, S42416S-S42421B, S42421S-S42422B, S42422S-S42423B, S42423S-S42424B, S42424S-S42425B, S42425S-S42426B, S42426S-S42431B, S42431S-S42432B, S42432S-S42433B, S42433S-S42434B, S42434S-S42435B, S42435S-S42436B, S42436S-S42441B, S42441S-S42442B, S42442S-S42443B, S42443S-S42444B, S42444S-S42445B, S42445S-S42446B, S42446S-S42447B, S42447S-S42448B, S42448S-S42449B, S42449S-S42451B, S42451S-S42452B, S42452S-S42453B, S42453S-S42454B, S42454S-S42455B, S42455S-S42456B, S42456S-S42461B, S42461S-S42462B, S42462S-S42463B, S42463S-S42464B, S42464S-S42465B, S42465S-S42466B, S42466S-S42471B, S42471S-S42472B, S42472S-S42473B, S42473S-S42474B, S42474S-S42475B, S42475S-S42476B, S42476S-S42481A, S42481S-S42482A, S42482S-S42489A, S42489S-S42491B, S42491S-S42492B, S42492S-S42493B, S42493S-S42494B, S42494S-S42495B, S42495S-S42496B, S42496S-S4290XB, S4290XS-S4291XB, S4291XS-S4292XB, S4292XS-S49001A, S49001S-S49002A, S49002S-S49009A, S49009S-S49011A, S49011S-S49012A, S49012S-S49019A, S49019S-S49021A, S49021S-S49022A, S49022S-S49029A, S49029S-S49031A, S49031S-S49032A, S49032S-S49039A, S49039S-S49041A, S49041S-S49042A, S49042S-S49049A, S49049S-S49091A, S49091S-S49092A, S49092S-S49099A, S49099S-S49101A, S49101S-S49102A, S49102S-S49109A, S49109S-S49111A, S49111S-S49112A, S49112S-S49119A, S49119S-S49121A, S49121S-S49122A, S49122S-S49129A, S49129S-S49131A, S49131S-S49132A, S49132S-S49139A, S49139S-S49141A, S49141S-S49142A, S49142S-S49149A, S49149S-S49191A, S49191S-S49192A, S49192S-S49199A, S49199S-S52001C, S52001S-S52002C, S52002S-S52009C, S52009S-S52011A, S52011S-S52012A, S52012S-S52019A, S52019S-S52021C, S52021S-S52022C, S52022S-S52023C, S52023S-S52024C, S52024S-S52025C, S52025S-S52026C, S52026S-S52031C, S52031S-S52032C, S52032S-S52033C, S52033S-S52034C, S52034S-S52035C,

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S52035S-S52036C, S52036S-S52041C, S52041S-S52042C, S52042S-S52043C, S52043S-S52044C, S52044S-S52045C, S52045S-S52046C, S52046S-S52091C, S52091S-S52092C, S52092S-S52099C, S52099S-S52101C, S52101S-S52102C, S52102S-S52109C, S52109S-S52111A, S52111S-S52112A, S52112S-S52119A, S52119S-S52121C, S52121S-S52122C, S52122S-S52123C, S52123S-S52124C, S52124S-S52125C, S52125S-S52126C, S52126S-S52131C, S52131S-S52132C, S52132S-S52133C, S52133S-S52134C, S52134S-S52135C, S52135S-S52136C, S52136S-S52181C, S52181S-S52182C, S52182S-S52189C, S52189S-S52201C, S52201S-S52202C, S52202S-S52209C, S52209S-S52211A, S52211S-S52212A, S52212S-S52219A, S52219S-S52221C, S52221S-S52222C, S52222S-S52223C, S52223S-S52224C, S52224S-S52225C, S52225S-S52226C, S52226S-S52231C, S52231S-S52232C, S52232S-S52233C, S52233S-S52234C, S52234S-S52235C, S52235S-S52236C, S52236S-S52241C, S52241S-S52242C, S52242S-S52243C, S52243S-S52244C, S52244S-S52245C, S52245S-S52246C, S52246S-S52251C, S52251S-S52252C, S52252S-S52253C, S52253S-S52254C, S52254S-S52255C, S52255S-S52256C, S52256S-S52261C, S52261S-S52262C, S52262S-S52263C, S52263S-S52264C, S52264S-S52265C, S52265S-S52266C, S52266S-S52271C, S52271S-S52272C, S52272S-S52279C, S52279S-S52281C, S52281S-S52282C, S52282S-S52283C, S52283S-S52291C, S52291S-S52292C, S52292S-S52299C, S52299S-S52301C, S52301S-S52302C, S52302S-S52309C, S52309S-S52311A, S52311S-S52312A, S52312S-S52319A, S52319S-S52321C, S52321S-S52322C, S52322S-S52323C, S52323S-S52324C, S52324S-S52325C, S52325S-S52326C, S52326S-S52331C, S52331S-S52332C, S52332S-S52333C, S52333S-S52334C, S52334S-S52335C, S52335S-S52336C, S52336S-S52341C, S52341S-S52342C, S52342S-S52343C, S52343S-S52344C, S52344S-S52345C, S52345S-S52346C, S52346S-S52351C, S52351S-S52352C, S52352S-S52353C, S52353S-S52354C, S52354S-S52355C, S52355S-S52356C, S52356S-S52361C, S52361S-S52362C, S52362S-S52363C, S52363S-S52364C, S52364S-S52365C, S52365S-S52366C, S52366S-S52371C, S52371S-S52372C, S52372S-S52379C, S52379S-S52381C, S52381S-S52382C, S52382S-S52389C, S52389S-S52391C, S52391S-S52392C, S52392S-S52399C, S52399S-S52501C, S52501S-S52502C, S52502S-S52509C, S52509S-S52511C, S52511S-S52512C, S52512S-S52513C, S52513S-S52514C,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S52514S-S52515C, S52515S-S52516C, S52516S-S52521A, S52521S-S52522A, S52522S-S52529A, S52529S-S52531C, S52531S-S52532C, S52532S-S52539C, S52539S-S52541C, S52541S-S52542C, S52542S-S52549C, S52549S-S52551C, S52551S-S52552C, S52552S-S52559C, S52559S-S52561C, S52561S-S52562C, S52562S-S52569C, S52569S-S52571C, S52571S-S52572C, S52572S-S52579C, S52579S-S52591C, S52591S-S52592C, S52592S-S52599C, S52599S-S52601C, S52601S-S52602C, S52602S-S52609C, S52609S-S52611C, S52611S-S52612C, S52612S-S52613C, S52613S-S52614C, S52614S-S52615C, S52615S-S52616C, S52616S-S52621A, S52621S-S52622A, S52622S-S52629A, S52629S-S52691C, S52691S-S52692C, S52692S-S52699C, S52699S-S5290XC, S5290XS-S5291XC, S5291XS-S5292XC, S5292XS-S59001A, S59001S-S59002A, S59002S-S59009A, S59009S-S59011A, S59011S-S59012A, S59012S-S59019A, S59019S-S59021A, S59021S-S59022A, S59022S-S59029A, S59029S-S59031A, S59031S-S59032A, S59032S-S59039A, S59039S-S59041A, S59041S-S59042A, S59042S-S59049A, S59049S-S59091A, S59091S-S59092A, S59092S-S59099A, S59099S-S59101A, S59101S-S59102A, S59102S-S59109A, S59109S-S59111A, S59111S-S59112A, S59112S-S59119A, S59119S-S59121A, S59121S-S59122A, S59122S-S59129A, S59129S-S59131A, S59131S-S59132A, S59132S-S59139A, S59139S-S59141A, S59141S-S59142A, S59142S-S59149A, S59149S-S59191A, S59191S-S59192A, S59192S-S59199A, S59199S-S59201A, S59201S-S59202A, S59202S-S59209A, S59209S-S59211A, S59211S-S59212A, S59212S-S59219A, S59219S-S59221A, S59221S-S59222A, S59222S-S59229A, S59229S-S59231A, S59231S-S59232A, S59232S-S59239A, S59239S-S59241A, S59241S-S59242A, S59242S-S59249A, S59249S-S59291A, S59291S-S59292A, S59292S-S59299A, S59299S-S62001B, S62001S-S62002B, S62002S-S62009B, S62009S-S62011B, S62011S-S62012B, S62012S-S62013B, S62013S-S62014B, S62014S-S62015B, S62015S-S62016B, S62016S-S62021B, S62021S-S62022B, S62022S-S62023B, S62023S-S62024B, S62024S-S62025B, S62025S-S62026B, S62026S-S62031B, S62031S-S62032B, S62032S-S62033B, S62033S-S62034B, S62034S-S62035B, S62035S-S62036B, S62036S-S62101B, S62101S-S62102B, S62102S-S62109B, S62109S-S62111B, S62111S-S62112B, S62112S-S62113B, S62113S-S62114B, S62114S-S62115B, S62115S-S62116B, S62116S-S62121B, S62121S-S62122B, S62122S-S62123B,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62123S-S62124B, S62124S-S62125B, S62125S-S62126B, S62126S-S62131B, S62131S-S62132B, S62132S-S62133B, S62133S-S62134B, S62134S-S62135B, S62135S-S62136B, S62136S-S62141B, S62141S-S62142B, S62142S-S62143B, S62143S-S62144B, S62144S-S62145B, S62145S-S62146B, S62146S-S62151B, S62151S-S62152B, S62152S-S62153B, S62153S-S62154B, S62154S-S62155B, S62155S-S62156B, S62156S-S62161B, S62161S-S62162B, S62162S-S62163B, S62163S-S62164B, S62164S-S62165B, S62165S-S62166B, S62166S-S62171B, S62171S-S62172B, S62172S-S62173B, S62173S-S62174B, S62174S-S62175B, S62175S-S62176B, S62176S-S62181B, S62181S-S62182B, S62182S-S62183B, S62183S-S62184B, S62184S-S62185B, S62185S-S62186B, S62186S-S62201B, S62201S-S62202B, S62202S-S62209B, S62209S-S62211B, S62211S-S62212B, S62212S-S62213B, S62213S-S62221B, S62221S-S62222B, S62222S-S62223B, S62223S-S62224B, S62224S-S62225B, S62225S-S62226B, S62226S-S62231B, S62231S-S62232B, S62232S-S62233B, S62233S-S62234B, S62234S-S62235B, S62235S-S62236B, S62236S-S62241B, S62241S-S62242B, S62242S-S62243B, S62243S-S62244B, S62244S-S62245B, S62245S-S62246B, S62246S-S62251B, S62251S-S62252B, S62252S-S62253B, S62253S-S62254B, S62254S-S62255B, S62255S-S62256B, S62256S-S62291B, S62291S-S62292B, S62292S-S62299B, S62299S-S62300B, S62300S-S62301B, S62301S-S62302B, S62302S-S62303B, S62303S-S62304B, S62304S-S62305B, S62305S-S62306B, S62306S-S62307B, S62307S-S62308B, S62308S-S62309B, S62309S-S62310B, S62310S-S62311B, S62311S-S62312B, S62312S-S62313B, S62313S-S62314B, S62314S-S62315B, S62315S-S62316B, S62316S-S62317B, S62317S-S62318B, S62318S-S62319B, S62319S-S62320B, S62320S-S62321B, S62321S-S62322B, S62322S-S62323B, S62323S-S62324B, S62324S-S62325B, S62325S-S62326B, S62326S-S62327B, S62327S-S62328B, S62328S-S62329B, S62329S-S62330B, S62330S-S62331B, S62331S-S62332B, S62332S-S62333B, S62333S-S62334B, S62334S-S62335B, S62335S-S62336B, S62336S-S62337B, S62337S-S62338B, S62338S-S62339B, S62339S-S62340B, S62340S-S62341B, S62341S-S62342B, S62342S-S62343B, S62343S-S62344B, S62344S-S62345B, S62345S-S62346B, S62346S-S62347B, S62347S-S62348B, S62348S-S62349B, S62349S-S62350B, S62350S-S62351B, S62351S-S62352B, S62352S-S62353B, S62353S-S62354B, S62354S-S62355B,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62355S-S62356B, S62356S-S62357B, S62357S-S62358B, S62358S-S62359B, S62359S-S62360B, S62360S-S62361B, S62361S-S62362B, S62362S-S62363B, S62363S-S62364B, S62364S-S62365B, S62365S-S62366B, S62366S-S62367B, S62367S-S62368B, S62368S-S62369B, S62369S-S62390B, S62390S-S62391B, S62391S-S62392B, S62392S-S62393B, S62393S-S62394B, S62394S-S62395B, S62395S-S62396B, S62396S-S62397B, S62397S-S62398B, S62398S-S62399B, S62399S-S62501B, S62501S-S62502B, S62502S-S62509B, S62509S-S62511B, S62511S-S62512B, S62512S-S62513B, S62513S-S62514B, S62514S-S62515B, S62515S-S62516B, S62516S-S62521B, S62521S-S62522B, S62522S-S62523B, S62523S-S62524B, S62524S-S62525B, S62525S-S62526B, S62526S-S62600B, S62600S-S62601B, S62601S-S62602B, S62602S-S62603B, S62603S-S62604B, S62604S-S62605B, S62605S-S62606B, S62606S-S62607B, S62607S-S62608B, S62608S-S62609B, S62609S-S62610B, S62610S-S62611B, S62611S-S62612B, S62612S-S62613B, S62613S-S62614B, S62614S-S62615B, S62615S-S62616B, S62616S-S62617B, S62617S-S62618B, S62618S-S62619B, S62619S-S62620B, S62620S-S62621B, S62621S-S62622B, S62622S-S62623B, S62623S-S62624B, S62624S-S62625B, S62625S-S62626B, S62626S-S62627B, S62627S-S62628B, S62628S-S62629B, S62629S-S62630B, S62630S-S62631B, S62631S-S62632B, S62632S-S62633B, S62633S-S62634B, S62634S-S62635B, S62635S-S62636B, S62636S-S62637B, S62637S-S62638B, S62638S-S62639B, S62639S-S62640B, S62640S-S62641B, S62641S-S62642B, S62642S-S62643B, S62643S-S62644B, S62644S-S62645B, S62645S-S62646B, S62646S-S62647B, S62647S-S62648B, S62648S-S62649B, S62649S-S62650B, S62650S-S62651B, S62651S-S62652B, S62652S-S62653B, S62653S-S62654B, S62654S-S62655B, S62655S-S62656B, S62656S-S62657B, S62657S-S62658B, S62658S-S62659B, S62659S-S62660B, S62660S-S62661B, S62661S-S62662B, S62662S-S62663B, S62663S-S62664B, S62664S-S62665B, S62665S-S62666B, S62666S-S62667B, S62667S-S62668B, S62668S-S62669B, S62669S-S6290XB, S6290XS-S6291XB, S6291XS-S6292XB, S6292XS-S72001C, S72001S-S72002C, S72002S-S72009C, S72009S-S72011C, S72011S-S72012C, S72012S-S72019C, S72019S-S72021C, S72021S-S72022C, S72022S-S72023C, S72023S-S72024C, S72024S-S72025C, S72025S-S72026C, S72026S-S72031C, S72031S-S72032C, S72032S-S72033C, S72033S-S72034C,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S72034S-S72035C, S72035S-S72036C, S72036S-S72041C, S72041S-S72042C, S72042S-S72043C, S72043S-S72044C, S72044S-S72045C, S72045S-S72046C, S72046S-S72051C, S72051S-S72052C, S72052S-S72059C, S72059S-S72061C, S72061S-S72062C, S72062S-S72063C, S72063S-S72064C, S72064S-S72065C, S72065S-S72066C, S72066S-S72091C, S72091S-S72092C, S72092S-S72099C, S72099S-S72101C, S72101S-S72102C, S72102S-S72109C, S72109S-S72111C, S72111S-S72112C, S72112S-S72113C, S72113S-S72114C, S72114S-S72115C, S72115S-S72116C, S72116S-S72121C, S72121S-S72122C, S72122S-S72123C, S72123S-S72124C, S72124S-S72125C, S72125S-S72126C, S72126S-S72131C, S72131S-S72132C, S72132S-S72133C, S72133S-S72134C, S72134S-S72135C, S72135S-S72136C, S72136S-S72141C, S72141S-S72142C, S72142S-S72143C, S72143S-S72144C, S72144S-S72145C, S72145S-S72146C, S72146S-S7221XC, S7221XS-S7222XC, S7222XS-S7223XC, S7223XS-S7224XC, S7224XS-S7225XC, S7225XS-S7226XC, S7226XS-S72301C, S72301S-S72302C, S72302S-S72309C, S72309S-S72321C, S72321S-S72322C, S72322S-S72323C, S72323S-S72324C, S72324S-S72325C, S72325S-S72326C, S72326S-S72331C, S72331S-S72332C, S72332S-S72333C, S72333S-S72334C, S72334S-S72335C, S72335S-S72336C, S72336S-S72341C, S72341S-S72342C, S72342S-S72343C, S72343S-S72344C, S72344S-S72345C, S72345S-S72346C, S72346S-S72351C, S72351S-S72352C, S72352S-S72353C, S72353S-S72354C, S72354S-S72355C, S72355S-S72356C, S72356S-S72361C, S72361S-S72362C, S72362S-S72363C, S72363S-S72364C, S72364S-S72365C, S72365S-S72366C, S72366S-S72391C, S72391S-S72392C, S72392S-S72399C, S72399S-S72401C, S72401S-S72402C, S72402S-S72409C, S72409S-S72411C, S72411S-S72412C, S72412S-S72413C, S72413S-S72414C, S72414S-S72415C, S72415S-S72416C, S72416S-S72421C, S72421S-S72422C, S72422S-S72423C, S72423S-S72424C, S72424S-S72425C, S72425S-S72426C, S72426S-S72431C, S72431S-S72432C, S72432S-S72433C, S72433S-S72434C, S72434S-S72435C, S72435S-S72436C, S72436S-S72441C, S72441S-S72442C, S72442S-S72443C, S72443S-S72444C, S72444S-S72445C, S72445S-S72446C, S72446S-S72451C, S72451S-S72452C, S72452S-S72453C, S72453S-S72454C, S72454S-S72455C, S72455S-S72456C, S72456S-S72461C, S72461S-S72462C, S72462S-S72463C, S72463S-S72464C, S72464S-S72465C, S72465S-S72466C,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S72466S-S72471A, S72471S-S72472A, S72472S-S72479A, S72479S-S72491C, S72491S-S72492C, S72492S-S72499C, S72499S-S728X1C, S728X1S-S728X2C, S728X2S-S728X9C, S728X9S-S7290XE, S7290XS-S7291XE, S7291XS-S7292XE, S7292XS-S79001A, S79001S-S79002A, S79002S-S79009A, S79009S-S79011A, S79011S-S79012A, S79012S-S79019A, S79019S-S79091A, S79091S-S79092A, S79092S-S79099A, S79099S-S79101A, S79101S-S79102A, S79102S-S79109A, S79109S-S79111A, S79111S-S79112A, S79112S-S79119A, S79119S-S79121A, S79121S-S79122A, S79122S-S79129A, S79129S-S79131A, S79131S-S79132A, S79132S-S79139A, S79139S-S79141A, S79141S-S79142A, S79142S-S79149A, S79149S-S79191A, S79191S-S79192A, S79192S-S79199A, S79199S-S82001C, S82001S-S82002C, S82002S-S82009C, S82009S-S82011C, S82011S-S82012C, S82012S-S82013C, S82013S-S82014C, S82014S-S82015C, S82015S-S82016C, S82016S-S82021C, S82021S-S82022C, S82022S-S82023C, S82023S-S82024C, S82024S-S82025C, S82025S-S82026C, S82026S-S82031C, S82031S-S82032C, S82032S-S82033C, S82033S-S82034C, S82034S-S82035C, S82035S-S82036C, S82036S-S82041C, S82041S-S82042C, S82042S-S82043C, S82043S-S82044C, S82044S-S82045C, S82045S-S82046C, S82046S-S82091C, S82091S-S82092C, S82092S-S82099C, S82099S-S82101C, S82101S-S82102C, S82102S-S82109C, S82109S-S82111C, S82111S-S82112C, S82112S-S82113C, S82113S-S82114C, S82114S-S82115C, S82115S-S82116C, S82116S-S82121C, S82121S-S82122C, S82122S-S82123C, S82123S-S82124C, S82124S-S82125C, S82125S-S82126C, S82126S-S82131C, S82131S-S82132C, S82132S-S82133C, S82133S-S82134C, S82134S-S82135C, S82135S-S82136C, S82136S-S82141C, S82141S-S82142C, S82142S-S82143C, S82143S-S82144C, S82144S-S82145C, S82145S-S82146C, S82146S-S82151C, S82151S-S82152C, S82152S-S82153C, S82153S-S82154C, S82154S-S82155C, S82155S-S82156C, S82156S-S82161A, S82161S-S82162A, S82162S-S82169A, S82169S-S82191C, S82191S-S82192C, S82192S-S82199C, S82199S-S82201C, S82201S-S82202C, S82202S-S82209C, S82209S-S82221C, S82221S-S82222C, S82222S-S82223C, S82223S-S82224C, S82224S-S82225C, S82225S-S82226C, S82226S-S82231C, S82231S-S82232C, S82232S-S82233C, S82233S-S82234C, S82234S-S82235C, S82235S-S82236C, S82236S-S82241C, S82241S-S82242C, S82242S-S82243C, S82243S-S82244C, S82244S-S82245C,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S82245S-S82246C, S82246S-S82251C, S82251S-S82252C, S82252S-S82253C, S82253S-S82254C, S82254S-S82255C, S82255S-S82256C, S82256S-S82261C, S82261S-S82262C, S82262S-S82263C, S82263S-S82264C, S82264S-S82265C, S82265S-S82266C, S82266S-S82291C, S82291S-S82292C, S82292S-S82299C, S82299S-S82301C, S82301S-S82302C, S82302S-S82309C, S82309S-S82311A, S82311S-S82312A, S82312S-S82319A, S82319S-S82391C, S82391S-S82392C, S82392S-S82399C, S82399S-S82401C, S82401S-S82402C, S82402S-S82409C, S82409S-S82421C, S82421S-S82422C, S82422S-S82423C, S82423S-S82424C, S82424S-S82425C, S82425S-S82426C, S82426S-S82431C, S82431S-S82432C, S82432S-S82433C, S82433S-S82434C, S82434S-S82435C, S82435S-S82436C, S82436S-S82441C, S82441S-S82442C, S82442S-S82443C, S82443S-S82444C, S82444S-S82445C, S82445S-S82446C, S82446S-S82451C, S82451S-S82452C, S82452S-S82453C, S82453S-S82454C, S82454S-S82455C, S82455S-S82456C, S82456S-S82461C, S82461S-S82462C, S82462S-S82463C, S82463S-S82464C, S82464S-S82465C, S82465S-S82466C, S82466S-S82491C, S82491S-S82492C, S82492S-S82499C, S82499S-S8251XC, S8251XS-S8252XC, S8252XS-S8253XC, S8253XS-S8254XC, S8254XS-S8255XC, S8255XS-S8256XC, S8256XS-S8261XC, S8261XS-S8262XC, S8262XS-S8263XC, S8263XS-S8264XC, S8264XS-S8265XC, S8265XS-S8266XC, S8266XS-S82811A, S82811S-S82812A, S82812S-S82819A, S82819S-S82821A, S82821S-S82822A, S82822S-S82829A, S82829S-S82831C, S82831S-S82832C, S82832S-S82839C, S82839S-S82841C, S82841S-S82842C, S82842S-S82843C, S82843S-S82844C, S82844S-S82845C, S82845S-S82846C, S82846S-S82851C, S82851S-S82852C, S82852S-S82853C, S82853S-S82854C, S82854S-S82855C, S82855S-S82856C, S82856S-S82861C, S82861S-S82862C, S82862S-S82863C, S82863S-S82864C, S82864S-S82865C, S82865S-S82866C, S82866S-S82871C, S82871S-S82872C, S82872S-S82873C, S82873S-S82874C, S82874S-S82875C, S82875S-S82876C, S82876S-S82891C, S82891S-S82892C, S82892S-S82899C, S82899S-S8290XC, S8290XS-S8291XC, S8291XS-S8292XC, S8292XS-S89001A, S89001S-S89002A, S89002S-S89009A, S89009S-S89011A, S89011S-S89012A, S89012S-S89019A, S89019S-S89021A, S89021S-S89022A, S89022S-S89029A, S89029S-S89031A, S89031S-S89032A, S89032S-S89039A, S89039S-S89041A, S89041S-S89042A, S89042S-S89049A, S89049S-S89091A,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S89091S-S89092A, S89092S-S89099A, S89099S-S89101A, S89101S-S89102A, S89102S-S89109A, S89109S-S89111A, S89111S-S89112A, S89112S-S89119A, S89119S-S89121A, S89121S-S89122A, S89122S-S89129A, S89129S-S89131A, S89131S-S89132A, S89132S-S89139A, S89139S-S89141A, S89141S-S89142A, S89142S-S89149A, S89149S-S89191A, S89191S-S89192A, S89192S-S89199A, S89199S-S89201A, S89201S-S89202A, S89202S-S89209A, S89209S-S89211A, S89211S-S89212A, S89212S-S89219A, S89219S-S89221A, S89221S-S89222A, S89222S-S89229A, S89229S-S89291A, S89291S-S89292A, S89292S-S89299A, S89299S-S89301A, S89301S-S89302A, S89302S-S89309A, S89309S-S89311A, S89311S-S89312A, S89312S-S89319A, S89319S-S89321A, S89321S-S89322A, S89322S-S89329A, S89329S-S89391A, S89391S-S89392A, S89392S-S89399A, S89399S-S92001B, S92001S-S92002B, S92002S-S92009B, S92009S-S92011B, S92011S-S92012B, S92012S-S92013B, S92013S-S92014B, S92014S-S92015B, S92015S-S92016B, S92016S-S92021B, S92021S-S92022B, S92022S-S92023B, S92023S-S92024B, S92024S-S92025B, S92025S-S92026B, S92026S-S92031B, S92031S-S92032B, S92032S-S92033B, S92033S-S92034B, S92034S-S92035B, S92035S-S92036B, S92036S-S92041B, S92041S-S92042B, S92042S-S92043B, S92043S-S92044B, S92044S-S92045B, S92045S-S92046B, S92046S-S92051B, S92051S-S92052B, S92052S-S92053B, S92053S-S92054B, S92054S-S92055B, S92055S-S92056B, S92056S-S92061B, S92061S-S92062B, S92062S-S92063B, S92063S-S92064B, S92064S-S92065B, S92065S-S92066B, S92066S-S92101B, S92101S-S92102B, S92102S-S92109B, S92109S-S92111B, S92111S-S92112B, S92112S-S92113B, S92113S-S92114B, S92114S-S92115B, S92115S-S92116B, S92116S-S92121B, S92121S-S92122B, S92122S-S92123B, S92123S-S92124B, S92124S-S92125B, S92125S-S92126B, S92126S-S92131B, S92131S-S92132B, S92132S-S92133B, S92133S-S92134B, S92134S-S92135B, S92135S-S92136B, S92136S-S92141B, S92141S-S92142B, S92142S-S92143B, S92143S-S92144B, S92144S-S92145B, S92145S-S92146B, S92146S-S92151B, S92151S-S92152B, S92152S-S92153B, S92153S-S92154B, S92154S-S92155B, S92155S-S92156B, S92156S-S92191B, S92191S-S92192B, S92192S-S92199B, S92199S-S92201B, S92201S-S92202B, S92202S-S92209B, S92209S-S92211B, S92211S-S92212B, S92212S-S92213B, S92213S-S92214B, S92214S-S92215B, S92215S-S92216B,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S92216S-S92221B, S92221S-S92222B, S92222S-S92223B, S92223S-S92224B, S92224S-S92225B, S92225S-S92226B, S92226S-S92231B, S92231S-S92232B, S92232S-S92233B, S92233S-S92234B, S92234S-S92235B, S92235S-S92236B, S92236S-S92241B, S92241S-S92242B, S92242S-S92243B, S92243S-S92244B, S92244S-S92245B, S92245S-S92246B, S92246S-S92251B, S92251S-S92252B, S92252S-S92253B, S92253S-S92254B, S92254S-S92255B, S92255S-S92256B, S92256S-S92301B, S92301S-S92302B, S92302S-S92309B, S92309S-S92311B, S92311S-S92312B, S92312S-S92313B, S92313S-S92314B, S92314S-S92315B, S92315S-S92316B, S92316S-S92321B, S92321S-S92322B, S92322S-S92323B, S92323S-S92324B, S92324S-S92325B, S92325S-S92326B, S92326S-S92331B, S92331S-S92332B, S92332S-S92333B, S92333S-S92334B, S92334S-S92335B, S92335S-S92336B, S92336S-S92341B, S92341S-S92342B, S92342S-S92343B, S92343S-S92344B, S92344S-S92345B, S92345S-S92346B, S92346S-S92351B, S92351S-S92352B, S92352S-S92353B, S92353S-S92354B, S92354S-S92355B, S92355S-S92356B, S92356S-S92401B, S92401S-S92402B, S92402S-S92403B, S92403S-S92404B, S92404S-S92405B, S92405S-S92406B, S92406S-S92411B, S92411S-S92412B, S92412S-S92413B, S92413S-S92414B, S92414S-S92415B, S92415S-S92416B, S92416S-S92421B, S92421S-S92422B, S92422S-S92423B, S92423S-S92424B, S92424S-S92425B, S92425S-S92426B, S92426S-S92491B, S92491S-S92492B, S92492S-S92499B, S92499S-S92501B, S92501S-S92502B, S92502S-S92503B, S92503S-S92504B, S92504S-S92505B, S92505S-S92506B, S92506S-S92511B, S92511S-S92512B, S92512S-S92513B, S92513S-S92514B, S92514S-S92515B, S92515S-S92516B, S92516S-S92521B, S92521S-S92522B, S92522S-S92523B, S92523S-S92524B, S92524S-S92525B, S92525S-S92526B, S92526S-S92531B, S92531S-S92532B, S92532S-S92533B, S92533S-S92534B, S92534S-S92535B, S92535S-S92536B, S92536S-S92591B, S92591S-S92592B, S92592S-S92599B, S92599S-S92811B, S92811S-S92812B, S92812S-S92819B, S92819S-S92901B, S92901S-S92902B, S92902S-S92909B, S92909S-S92911B, S92911S-S92912B, S92912S-S92919B, S92919S-S99001B, S99001S-S99002B, S99002S-S99009B, S99009S-S99011B, S99011S-S99012B, S99012S-S99019B, S99019S-S99021B, S99021S-S99022B, S99022S-S99029B, S99029S-S99031B, S99031S-S99032B, S99032S-S99039B, S99039S-S99041B, S99041S-S99042B,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S99042S-S99049B, S99049S-S99091B, S99091S-S99092B, S99092S-S99099B, S99099S-S99101B, S99101S-S99102B, S99102S-S99109B, S99109S-S99111B, S99111S-S99112B, S99112S-S99119B, S99119S-S99121B, S99121S-S99122B, S99122S-S99129B, S99129S-S99131B, S99131S-S99132B, S99132S-S99139B, S99139S-S99141B, S99141S-S99142B, S99142S-S99149B, S99149S-S99191B, S99191S-S99192B, S99192S-S99199B, S99199S-S99201B, S99201S-S99202B, S99202S-S99209B, S99209S-S99211B, S99211S-S99212B, S99212S-S99219B, S99219S-S99221B, S99221S-S99222B, S99222S-S99229B, S99229S-S99231B, S99231S-S99232B, S99232S-S99239B, S99239S-S99241B, S99241S-S99242B, S99242S-S99249B, S99249S-S99291B, S99291S-S99292B, S99292S-S99299B, S99299S-T79A9XS, T800XS, T801XS, T80211S, T80212S, T80218S, T80219S, T8022XS, T8029XS, T8030XS, T80310S, T80311S, T80319S, T8039XS, T8040XS, T80410S, T80411S, T80419S, T8049XS, T8051XS, T8052XS, T8059XS, T8061XS, T8062XS, T8069XS, T80810S, T80818S, T8089XS, T8090XS, T80910S, T80911S, T80919S, T8092XS, T80A0XS, T80A10S, T80A11S, T80A19S, T80A9XS-T8172XS, T8181XS-T836XXS, T83711S-T83719S, T83721S-T879, T880XXS, T881XXS-T883XXS, T884XXS-T886XXS, T887XXS-T888XXS, T889XXS T8189XA
22.	Surgical Wounds (SURW)	998	998.83	
23.	Dyslipidemia (DYSL)	272	ACG definition of DYSL or 272	E7130, E7521-E7522, E75240-E75249, E753, E755-E756, E770-E7870, E7879-E789, E881-E882, E8889
24.	HIV/AIDS and varicose veins of other sites (HIVA)	042, V08, 456	ACG definition of HIVA or 042, V08, 456	B20, I8500 – I868, and Z21
25.	Pneumonia (PNEU)	480-486	480-486	A221, A3701, A3711, A3781, A3791, A481, B250, B440, B7781, J120-J181, J188-J189
26.	Chronic obstructive pulmonary disease (COPD)	491-492, 494-496	ACG definition of COPD	ACG definition of COPD
27.	Other mental health/substance abuse (MHSA)	291-299, 301-308, 310, 312-314, V40	291-295, 296, 299, 301-305.0, 305.2-308, 310, 312-314, V40	F0280-F1699, F17203-F17209, F17213-F17219, F17223-F17229, F17293-F328, F3289-F5103, F5109-F5112, F5119-F53, F550-F69, F819, F840, F843-F849, F900-F989, G44209, R37, R451, R457-R4582, R4681-R4689, Z8659-Z87890, Z9183

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28.	Back problems (BACK)	720-724,847	720-724, 739.1-739.3, 847	A1801, M081, M2578, M4320-M4328, M436, M438X9, M450-M461, M4640-M4838, M488X1-M531, M532X7-M532X8, M533-M5409, M5411-M5417, M542-M549, M62830, M6788, M961, M9901-M9903, M9920-M9979, S134XXA, S138XXA, S161XXA, S233XXA, S238XXA, S239XXA, S335XXA, S338XXA
29.	Skin disorders (SKIN)	216, 680-686, 690-698, 700-702, 705-709, 782	216, 680-686, 690-698, 700-702, 705-709, 782	B781, D220-D239, E08628, E09628, E832, I70231-I7025, I70331-I7035, I70431-I7045, I70531-I7055, I70631-I7065, I70731-I7075, K122, L00-L080, L0881-L443, L448-L599, L661, L664, L700-L720, L722-L730, L732, L739-L759, L80-L945, L948-L99, NODX, R17, R200-R239, R600-R609
30.	Skin disorders not related to obesity (SKIN_OBES)	216, 680-685, 690-698, 700-702, 705-706, 708-709, 782	n.a.	n.a.
31.	Skin disorders not related to dementia (SKIN_DEMT)	216, 680-685, 690-698, 701-702, 705-706, 708-709, 782	216, 680-685, 690-698, 701-702, 705-706, 708-709, 782	D220-D239, E08628, E09628, K122, L00-L0592, L100-L443, L448-L599, L661, L664-L700-L720, L722-L730, L732, L739-L759, L80-L83, L850-L879, L900-L923, L929-L945, L948-L959, L981-L983, L985-L99, R17, R200-R239, R600-R609, N170-N19, N250-N261, N269
32.	Renal failure and chronic kidney disease (RENL)	584-588	584-588	
33..	33.Pregnancy (PREG) ⁴¹	630-677,679, V22-24,V27, V28 (restriction: female, age 15-55)	630-677,679, V20.3, V21.3, V21.8, V21.9,V22-24,V27, V28 (restriction: female, age 15-55)	A34, O000-O2693, O29011-O30019, O30031-O368199, O368310-O9A53, P0701-P0718, Z00110-Z003, Z331-Z392, Z87898
34.	Perinatal and fetal conditions (PRNT)	678, V21, V29, 760-779	678, V21.3,V21.8,V21.9, V29, 760-779	A33, NODX, O30021-O30029, O358XX0-O358XX9, O368210- O368299, P000-P0822, P100-P292, P294-P969, Q860-Q868, R0603, R7881, Z002-Z059, Z87898
35.	Perinatal and fetal conditions not related to smoking	678, 760, 767, 768, 771, 773-776, 778	n.a	n.a
36.	Rheumatic heart disease (RHEU)	390-393, 395, 398	390-393, 395, 398	I00-I029, I060-I069, U090, I092-I099
37.	Underweight (UNDERWGT)	Reported BMI	n.a	n.a
38.	Diseases of mitral and aortic valves & other endocardial structures (VALV)	093, 394, 396, 424, 725, 745, 746	093, 394, 396, 424, 725, 745, 746	A1884, A5200-A5209, I050-I059, I080, I088-I089, I2783, I340-I39, M3211, M353, Q200-Q249
39.	Diseases of mitral and aortic valves & other endocardial structures not related to hypertension (VALV_HPER)	093, 394, 396, 725, 745, 746	093, 394, 396,725, 745, 746	A5200-A5209, I050-I059, I080, I088-I089, I2783, M353
40.	Acute and chronic pulmonary heart disease (PULM)	415-416	415-416	I2601-I2782, I2789-I279, T800XXA, T81718A, T8172XA, T82817A, T82818A,

⁴¹ Pregnancy diagnoses are restricted to women age 15 to 55. In the MN APCD, 58 percent of the 2014 pregnancy diagnosis codes for females age 10 to 15 derived from a diagnosis of alcohol affecting the fetus or newborn via placenta or breast milk (767.01)

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41.	Acute and chronic pulmonary heart disease not related to obesity (PULM_OBES)	415	n.a.	n.a.
42.	Acute and other pericardial & endocardial disease (PERI)	397	397	I070-I079, I081-I089, I091
43.	Cardiomyopathy (CARM)	425	425	A1884, I420-I43
44.	Conduction disorders (COND)	426	426	I1440-I459, J410-J449, J470-J479, J670-J679
45.	Cardiac dysrhythmias (CDYS)	427	427	I462-I499, R001
46.	Other or ill-defined heart disease (OTHH)	410-413, 429	410-413, 429	I200-I252, I25700-I25799, I510-I52, I970-I97191
47.	Overall heart conditions (OHD)	RHEU, VALV, PULM, PERI, CARM, COND, CDYS, OTHH	RHEU, VALV, PULM, PERI, CARM, COND, CDYS, OTHH	RHEU, VALV, PULM, PERI, CARM, COND, CDYS, OTHH
48.	Other conditions (OTHC) ⁴²	0-41,45-66,70-88,90-92, 94-133, 134-139, 211-215, 217-229, 240-246, 249, 251-259, 260-2710, 273-277, 279-289, 315, 316,317-319, 320-323, 324-326, 327, 330, 332, 333-337, 338-359, 360-379, 380-389, 417, 420-423, 430-432,440-442, 443, 444-449, 451-454, 455, 457, 458, 459, 460-466, 470-473, 474-478, 487,488, 490, 500-516, 517, 518-519, 520-579, 580-583, 589-599, 600-608, 610-612, 614-616, 617-629, 703-704, 710-713, 717-490, 500-516, 517, 518-519, 520-579, 580-583, 589-599, 600-608, 610-612, 614-616, 617-629, 703-704, 710-713, 717-719, 726-739, 740-744, 747-759, 780-781, 783-799, 999	0-41,45-66,70-88,90-92, 94-133, 134-139, 211-215, 217-229, 240-246, 249, 251-259, 260-271, 273-277, 279-289, 315, 316,317-319, 320-323, 324-326, 327, 330, 331.4, 332, 333-337, 338-359, 360-379, 380-389, 417, 420-423, 430-432, 440-442,443, 444-449, 451-454, 455, 457, 458, 459, 460-466, 470-473, 474-478, 487,488, 490, 500-516, 517, 518-519, 520-579, 580-583, 589-599, 600-608, 610-612, 614-616, 617-629, 703-704, 710-713, 717-719, 726-739, 740-744, 747-759, 780-781, 783-799, 999	A001-A329, A35-A480, A482-A519, A5210-B199, B250-B780, B787-B999, C880, C965-C966, D100-D219, D241-D369, D472, D474, D481, D500-D77, D800-E099, E103521-E103549, E1041, E1043-E1052, E10610, E10630, E113521-E113549, E1141, E1143-E1152, E11610, E11630, E1300-E35, E40-E649, E700-E712, E71310-E7519, E7523, E7525-E7529, E754, E7601-E769, E771, E7871-E7872, E790-E8319, E8330-E8809, E883-E896, F3281, F5104-F5105, F5113, F518, F54, F70-F82, F842, F88-F89, G000-G131, G14-G26, G3181-G3182, G319-G4489, G453, G4700-G909, G911, G913, G918-G936, G9381-G939, G950-G969, G971, G9741, G9782-H579, H5940-H5943, H6000-H95199, I280-I339, I39-I41, I6000-I629, I670, I673, I6783, I700-I8393, I87001-I96, I972, I998-J1189, J129, J17, J181-J182, J200-J40, J60-J668, J680-J953, J95811-J95822, J9584, J9600-K67, K6812-K912, K915, K91850-K91858, K9189-K9589, L081, L444, L600-L660, L662-L663, L668-L689, L7211-L7212, L731, L738-L739, L946, M0000-M049, M0540-M0559, M0760-M0769, M1000-M119, M1220-M1249, M1280, M1460-M1489, M1A00X0-M1A09X1, M1A20X0-M25776, M2580-M352, M354-M4319, M433-M435X9, M438X1-M439, M4620-M4639, M4840XA, M4841XA, M4842XA, M4843XA, M4844XA, M4845XA,

⁴² Other conditions include all codes that are not categorized elsewhere

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				M4846XA, M4847XA, M4848XA, M4850XA, M4851XA, M4852XA, M4853XA, M4854XA, M4855XA, M4856XA, M4857XA, M4858XA, M532X1-M532X6, M532X9, M5410, M5418, M60000-M6282, M62831-M8000XP, M80011A-M80011P, M80012A-M80012P, M80019A-M80019P, M80021A-M80021P, M80022A-M80022P, M80029A-M80029P, M80031A-M80031P, M80032A-M80032P, M80039A-M80039P, M80041A-M80041P, M80042A-M80042P, M80049A-M80049P, M80051A-M80051P, M80052A-M80052P, M80059A-M80059P, M80061A-M80061P, M80062A-M80062P, M80069A-M80069P, M80071A-M80071P, M80072A-M80072P, M80079A-M80079P, M8008XA-M8008XP, M8080XA-M8080XP, M80811A-M80811P, M80812A-M80812P, M80819A-M80819P, M80821A-M80821P, M80822A-M80822P, M80829A-M80829P, M80831A-M80831P, M80832A-M80832P, M80839A-M80839P, M80841A-M80841P, M80842A-M80842P, M80849A-M80849P, M80851A-M80851P, M80852A-M80852P, M80859A-M80859P, M80861A-M80861P, M80862A-M80862P, M80869A-M80869P, M80871A-M80871P, M80872A-M80872P, M80879A-M80879P, M8088XA-M8088XP, M810-M8430XP, M84311A-M84311P, M84312A-M84312P, M84319A-M84319P, M84321A-M84321P, M84322A-M84322P, M84329A-M84329P, M84331A-M84331P, M84332A-M84332P, M84333A-M84333P, M84334A-M84334P, M84339A-M84339P, M84341A-M84341P, M84342A-M84342P, M84343A-M84343P, M84344A-M84344P, M84345A-M84345P, M84346A-M84346P, M84350A-M84350P, M84351A-M84351P, M84352A-M84352P, M84353A-M84353P, M84359A-M84359P, M84361A-M84361P, M84362A-M84362P, M84363A-M84363P, M84364A-M84364P, M84369A-M84369P, M84371A-M84371P, M84372A-M84372P, M84373A-M84373P, M84374A-M84374P, M84375A-M84375P, M84376A-M84376P, M84377A-M84377P, M84378A-M84378P, M84379A-M84379P, M8438XA-M8438XP, M8440XA-M8440XP, M84411A-M84411P, M84412A-M84412P, M84419A-M84419P, M84421A-M84421P, M84422A-M84422P, M84429A-M84429P, M84431A-M84431P, M84432A-M84432P, M84433A-M84433P, M84434A-M84434P, M84439A-M84439P, M84441A-M84441P, M84442A-M84442P, M84443A-M84443P, M84444A-M84444P, M84445A-M84445P,

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				M84446A-M84446P, M84451A-M84451P, M84452A-M84452P, M84453A-M84453P, M84454A-M84454P, M84459A-M84459P, M84461A-M84461P, M84462A-M84462P, M84463A-M84463P, M84464A-M84464P, M84469A-M84469P, M84471A-M84471P, M84472A-M84472P, M84473A-M84473P, M84474A-M84474P, M84475A-M84475P, M84476A-M84476P, M84477A-M84477P, M84478A-M84478P, M84479A-M84479P, M8448XA-M8448XP, M8450XA-M8450XP, M84511A-M84511P, M84512A-M84512P, M84519A-M84519P, M84521A-M84521P, M84522A-M84522P, M84529A-M84529P, M84531A-M84531P, M84532A-M84532P, M84533A-M84533P, M84534A-M84534P, M84539A-M84539P, M84541A-M84541P, M84542A-M84542P, M84549A-M84549P, M84550A-M84550P, M84551A-M84551P, M84552A-M84552P, M84553A-M84553P, M84559A-M84559P, M84561A-M84561P, M84562A-M84562P, M84563A-M84563P, M84564A-M84564P, M84569A-M84569P, M84571A-M84571P, M84572A-M84572P, M84573A-M84573P, M84574A-M84574P, M84575A-M84575P, M84576A-M84576P, M8458XA-M8458XP, M8460XA-M8460XP, M84611A-M84611P, M84612A-M84612P, M84619A-M84619P, M84621A-M84621P, M84622A-M84622P, M84629A-M84629P, M84631A-M84631P, M84632A-M84632P, M84633A-M84633P, M84634A-M84634P, M84639A-M84639P, M84641A-M84641P, M84642A-M84642P, M84649A-M84649P, M84650A-M84650P, M84651A-M84651P, M84652A-M84652P, M84653A-M84653P, M84659A-M84659P, M84661A-M84661P, M84662A-M84662P, M84663A-M84663P, M84664A-M84664P, M84669A-M84669P, M84671A-M84671P, M84672A-M84672P, M84673A-M84673P, M84674A-M84674P, M84675A-M84675P, M84676A-M84676P, M8468XA-M8468XP, M84750A-M84750P, M84751A-M84751P, M84752A-M84752P, M84753A-M84753P, M84754A-M84754P, M84755A-M84755P, M84756A-M84756P, M84757A-M84757P, M84758A-M84758P, M84759A-M84759P, M8480-M959, M962-M965, M9900-M9909, M9980-N16, N171-N172, N200-N23, N270-N981, N99110-N99518, N9983, NODX, O280-O289, P09, P293-P2938, Q000-Q189, Q250-Q849, Q851-Q859, Q870-R000, R002-R162, R180-R198, R220-R222, R250-R369, R390-R450, R453-R454, R4583-

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				R599, R61-R64, R6521-R99, S020XXK, S02101K, S02102K, S02109K, S0210XK, S02110K, S02111K, S02112K, S02113K, S02118K, S02119K, S0211AK, S0211BK, S0211CK, S0211DK, S0211EK, S0211FK, S0211GK, S0211HK, S0219XK, S022XXK, S0230XK, S0231XK, S0232XK, S023XXK, S02400K, S02401K, S02402K, S0240AK, S0240BK, S0240CK, S0240DK, S0240EK, S0240FK, S02411K, S02412K, S02413K, S0242XK, S025XXK, S02600K, S02601K, S02602K, S02609K, S02610K, S02611K, S02612K, S0261XK, S02620K, S02621K, S02622K, S0262XK, S02630K, S02631K, S02632K, S0263XK, S02640K, S02641K, S02642K, S0264XK, S02650K, S02651K, S02652K, S0265XK, S0266XK, S02670K, S02671K, S02672K, S0267XK, S0269XK, S0280XK, S0281XK, S0282XK, S028XXK, S0291XK, S0292XK, S061X0A, S061X1A, S061X2A, S061X3A, S061X4A, S061X5A, S061X6A, S061X7A, S061X8A, S061X9A, S12000K, S12001K, S1201XK, S1202XK, S12030K, S12031K, S12040K, S12041K, S12090K, S12091K, S12100K, S12101K, S12110K, S12111K, S12112K, S12120K, S12121K, S12130K, S12131K, S1214XK, S12150K, S12151K, S12190K, S12191K, S12200K, S12201K, S12230K, S12231K, S1224XK, S12250K, S12251K, S12290K, S12291K, S12300K, S12301K, S12330K, S12331K, S1234XK, S12350K, S12351K, S12390K, S12391K, S12400K, S12401K, S12430K, S12431K, S1244XK, S12450K, S12451K, S12490K, S12491K, S12500K, S12501K, S12530K, S12531K, S1254XK, S12550K, S12551K, S12590K, S12591K, S12600K, S12601K, S12630K, S12631K, S1264XK, S12650K, S12651K, S12690K, S12691K, S22000K, S22001K, S22002K, S22008K, S22009K, S22010K, S22011K, S22012K, S22018K, S22019K, S22020K, S22021K, S22022K, S22028K, S22029K, S22030K, S22031K, S22032K, S22038K, S22039K, S22040K, S22041K, S22042K, S22048K, S22049K, S22050K, S22051K, S22052K, S22058K, S22059K, S22060K, S22061K, S22062K, S22068K, S22069K, S22070K, S22071K, S22072K, S22078K, S22079K, S22080K, S22081K, S22082K, S22088K, S22089K, S2220XK, S2221XK, S2222XK, S2223XK, S2224XK, S2231XK, S2232XK, S2239XK, S2241XK, S2242XK, S2243XK, S2249XK, S225XXK, S229XXK, S32000K, S32001K, S32002K, S32008K, S32009K, S32010K, S32011K, S32012K,

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				S32018K, S32019K, S32020K, S32021K, S32022K, S32028K, S32029K, S32030K, S32031K, S32032K, S32038K, S32039K, S32040K, S32041K, S32042K, S32048K, S32049K, S32050K, S32051K, S32052K, S32058K, S32059K, S3210XK, S32110K, S32111K, S32112K, S32119K, S32120K, S32121K, S32122K, S32129K, S32130K, S32131K, S32132K, S32139K, S3214XK, S3215XK, S3216XK, S3217XK, S3219XK, S322XXK, S32301K, S32302K, S32309K, S32311K, S32312K, S32313K, S32314K, S32315K, S32316K, S32391K, S32392K, S32399K, S32401K, S32402K, S32409K, S32411K, S32412K, S32413K, S32414K, S32415K, S32416K, S32421K, S32422K, S32423K, S32424K, S32425K, S32426K, S32431K, S32432K, S32433K, S32434K, S32435K, S32436K, S32441K, S32442K, S32443K, S32444K, S32445K, S32446K, S32451K, S32452K, S32453K, S32454K, S32455K, S32456K, S32461K, S32462K, S32463K, S32464K, S32465K, S32466K, S32471K, S32472K, S32473K, S32474K, S32475K, S32476K, S32481K, S32482K, S32483K, S32484K, S32485K, S32486K, S32491K, S32492K, S32499K, S32501K, S32502K, S32509K, S32511K, S32512K, S32519K, S32591K, S32592K, S32599K, S32601K, S32602K, S32609K, S32611K, S32612K, S32613K, S32614K, S32615K, S32616K, S32691K, S32692K, S32699K, S32810K, S32811K, S3282XK, S3289XK, S329XXK, S42001K-S42001P, S42002K-S42002P, S42009K-S42009P, S42011K-S42011P, S42012K-S42012P, S42013K-S42013P, S42014K-S42014P, S42015K-S42015P, S42016K-S42016P, S42017K-S42017P, S42018K-S42018P, S42019K-S42019P, S42021K-S42021P, S42022K-S42022P, S42023K-S42023P, S42024K-S42024P, S42025K-S42025P, S42026K-S42026P, S42031K-S42031P, S42032K-S42032P, S42033K-S42033P, S42034K-S42034P, S42035K-S42035P, S42036K-S42036P, S42101K-S42101P, S42102K-S42102P, S42109K-S42109P, S42111K-S42111P, S42112K-S42112P, S42113K-S42113P, S42114K-S42114P, S42115K-S42115P, S42116K-S42116P, S42121K-S42121P, S42122K-S42122P, S42123K-S42123P, S42124K-S42124P, S42125K-S42125P, S42126K-S42126P, S42131K-S42131P, S42132K-S42132P, S42133K-S42133P, S42134K-S42134P, S42135K-S42135P, S42136K-S42136P, S42141K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S42141P, S42142K-S42142P, S42143K-S42143P, S42144K-S42144P, S42145K-S42145P, S42146K-S42146P, S42151K-S42151P, S42152K-S42152P, S42153K-S42153P, S42154K-S42154P, S42155K-S42155P, S42156K-S42156P, S42191K-S42191P, S42192K-S42192P, S42199K-S42199P, S42201K-S42201P, S42202K-S42202P, S42209K-S42209P, S42211K-S42211P, S42212K-S42212P, S42213K-S42213P, S42214K-S42214P, S42215K-S42215P, S42216K-S42216P, S42221K-S42221P, S42222K-S42222P, S42223K-S42223P, S42224K-S42224P, S42225K-S42225P, S42226K-S42226P, S42231K-S42231P, S42232K-S42232P, S42239K-S42239P, S42241K-S42241P, S42242K-S42242P, S42249K-S42249P, S42251K-S42251P, S42252K-S42252P, S42253K-S42253P, S42254K-S42254P, S42255K-S42255P, S42256K-S42256P, S42261K-S42261P, S42262K-S42262P, S42263K-S42263P, S42264K-S42264P, S42265K-S42265P, S42266K-S42266P, S42271K-S42271P, S42272K-S42272P, S42279K-S42279P, S42291K-S42291P, S42292K-S42292P, S42293K-S42293P, S42294K-S42294P, S42295K-S42295P, S42296K-S42296P, S42301K-S42301P, S42302K-S42302P, S42309K-S42309P, S42311K-S42311P, S42312K-S42312P, S42319K-S42319P, S42321K-S42321P, S42322K-S42322P, S42323K-S42323P, S42324K-S42324P, S42325K-S42325P, S42326K-S42326P, S42331K-S42331P, S42332K-S42332P, S42333K-S42333P, S42334K-S42334P, S42335K-S42335P, S42336K-S42336P, S42341K-S42341P, S42342K-S42342P, S42343K-S42343P, S42344K-S42344P, S42345K-S42345P, S42346K-S42346P, S42351K-S42351P, S42352K-S42352P, S42353K-S42353P, S42354K-S42354P, S42355K-S42355P, S42356K-S42356P, S42361K-S42361P, S42362K-S42362P, S42363K-S42363P, S42364K-S42364P, S42365K-S42365P, S42366K-S42366P, S42391K-S42391P, S42392K-S42392P, S42399K-S42399P, S42401K-S42401P, S42402K-S42402P, S42409K-S42409P, S42411K-S42411P, S42412K-S42412P, S42413K-S42413P, S42414K-S42414P, S42415K-S42415P, S42416K-S42416P, S42421K-S42421P, S42422K-S42422P, S42423K-S42423P, S42424K-S42424P, S42425K-S42425P, S42426K-S42426P, S42431K-S42431P, S42432K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S42432P, S42433K-S42433P, S42434K-S42434P, S42435K-S42435P, S42436K-S42436P, S42441K-S42441P, S42442K-S42442P, S42443K-S42443P, S42444K-S42444P, S42445K-S42445P, S42446K-S42446P, S42447K-S42447P, S42448K-S42448P, S42449K-S42449P, S42451K-S42451P, S42452K-S42452P, S42453K-S42453P, S42454K-S42454P, S42455K-S42455P, S42456K-S42456P, S42461K-S42461P, S42462K-S42462P, S42463K-S42463P, S42464K-S42464P, S42465K-S42465P, S42466K-S42466P, S42471K-S42471P, S42472K-S42472P, S42473K-S42473P, S42474K-S42474P, S42475K-S42475P, S42476K-S42476P, S42481K-S42481P, S42482K-S42482P, S42489K-S42489P, S42491K-S42491P, S42492K-S42492P, S42493K-S42493P, S42494K-S42494P, S42495K-S42495P, S42496K-S42496P, S4290XK-S4290XP, S4291XK-S4291XP, S4292XK-S4292XP, S49001K-S49001P, S49002K-S49002P, S49009K-S49009P, S49011K-S49011P, S49012K-S49012P, S49019K-S49019P, S49021K-S49021P, S49022K-S49022P, S49029K-S49029P, S49031K-S49031P, S49032K-S49032P, S49039K-S49039P, S49041K-S49041P, S49042K-S49042P, S49049K-S49049P, S49091K-S49091P, S49092K-S49092P, S49099K-S49099P, S49101K-S49101P, S49102K-S49102P, S49109K-S49109P, S49111K-S49111P, S49112K-S49112P, S49119K-S49119P, S49121K-S49121P, S49122K-S49122P, S49129K-S49129P, S49131K-S49131P, S49132K-S49132P, S49139K-S49139P, S49141K-S49141P, S49142K-S49142P, S49149K-S49149P, S49191K-S49191P, S49192K-S49192P, S49199K-S49199P, S52001K-S52001R, S52002K-S52002R, S52009K-S52009R, S52011K-S52011P, S52012K-S52012P, S52019K-S52019P, S52021K-S52021R, S52022K-S52022R, S52023K-S52023R, S52024K-S52024R, S52025K-S52025R, S52026K-S52026R, S52031K-S52031R, S52032K-S52032R, S52033K-S52033R, S52034K-S52034R, S52035K-S52035R, S52036K-S52036R, S52041K-S52041R, S52042K-S52042R, S52043K-S52043R, S52044K-S52044R, S52045K-S52045R, S52046K-S52046R, S52091K-S52091R, S52092K-S52092R, S52099K-S52099R, S52101K-S52101R, S52102K-S52102R, S52109K-S52109R, S52111K-S52111P, S52112K-S52112P, S52119K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S52119P, S52121K-S52121R, S52122K-S52122R, S52123K-S52123R, S52124K-S52124R, S52125K-S52125R, S52126K-S52126R, S52131K-S52131R, S52132K-S52132R, S52133K-S52133R, S52134K-S52134R, S52135K-S52135R, S52136K-S52136R, S52181K-S52181R, S52182K-S52182R, S52189K-S52189R, S52201K-S52201R, S52202K-S52202R, S52209K-S52209R, S52211K-S52211P, S52212K-S52212P, S52219K-S52219P, S52221K-S52221R, S52222K-S52222R, S52223K-S52223R, S52224K-S52224R, S52225K-S52225R, S52226K-S52226R, S52231K-S52231R, S52232K-S52232R, S52233K-S52233R, S52234K-S52234R, S52235K-S52235R, S52236K-S52236R, S52241K-S52241R, S52242K-S52242R, S52243K-S52243R, S52244K-S52244R, S52245K-S52245R, S52246K-S52246R, S52251K-S52251R, S52252K-S52252R, S52253K-S52253R, S52254K-S52254R, S52255K-S52255R, S52256K-S52256R, S52261K-S52261R, S52262K-S52262R, S52263K-S52263R, S52264K-S52264R, S52265K-S52265R, S52266K-S52266R, S52271K-S52271R, S52272K-S52272R, S52279K-S52279R, S52281K-S52281R, S52282K-S52282R, S52283K-S52283R, S52291K-S52291R, S52292K-S52292R, S52299K-S52299R, S52301K-S52301R, S52302K-S52302R, S52309K-S52309R, S52311K-S52311P, S52312K-S52312P, S52319K-S52319P, S52321K-S52321R, S52322K-S52322R, S52323K-S52323R, S52324K-S52324R, S52325K-S52325R, S52326K-S52326R, S52331K-S52331R, S52332K-S52332R, S52333K-S52333R, S52334K-S52334R, S52335K-S52335R, S52336K-S52336R, S52341K-S52341R, S52342K-S52342R, S52343K-S52343R, S52344K-S52344R, S52345K-S52345R, S52346K-S52346R, S52351K-S52351R, S52352K-S52352R, S52353K-S52353R, S52354K-S52354R, S52355K-S52355R, S52356K-S52356R, S52361K-S52361R, S52362K-S52362R, S52363K-S52363R, S52364K-S52364R, S52365K-S52365R, S52366K-S52366R, S52371K-S52371R, S52372K-S52372R, S52379K-S52379R, S52381K-S52381R, S52382K-S52382R, S52389K-S52389R, S52391K-S52391R, S52392K-S52392R, S52399K-S52399R, S52501K-S52501R, S52502K-S52502R, S52509K-S52509R, S52511K-S52511R, S52512K-S52512R, S52513K-S52513R, S52514K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S52514R, S52515K-S52515R, S52516K-S52516R, S52521K-S52521P, S52522K-S52522P, S52529K-S52529P, S52531K-S52531R, S52532K-S52532R, S52539K-S52539R, S52541K-S52541R, S52542K-S52542R, S52549K-S52549R, S52551K-S52551R, S52552K-S52552R, S52559K-S52559R, S52561K-S52561R, S52562K-S52562R, S52569K-S52569R, S52571K-S52571R, S52572K-S52572R, S52579K-S52579R, S52591K-S52591R, S52592K-S52592R, S52599K-S52599R, S52601K-S52601R, S52602K-S52602R, S52609K-S52609R, S52611K-S52611R, S52612K-S52612R, S52613K-S52613R, S52614K-S52614R, S52615K-S52615R, S52616K-S52616R, S52621K-S52621P, S52622K-S52622P, S52629K-S52629P, S52691K-S52691R, S52692K-S52692R, S52699K-S52699R, S5290XK-S5290XR, S5291XK-S5291XR, S5292XK-S5292XR, S59001K-S59001P, S59002K-S59002P, S59009K-S59009P, S59011K-S59011P, S59012K-S59012P, S59019K-S59019P, S59021K-S59021P, S59022K-S59022P, S59029K-S59029P, S59031K-S59031P, S59032K-S59032P, S59039K-S59039P, S59041K-S59041P, S59042K-S59042P, S59049K-S59049P, S59091K-S59091P, S59092K-S59092P, S59099K-S59099P, S59101K-S59101P, S59102K-S59102P, S59109K-S59109P, S59111K-S59111P, S59112K-S59112P, S59119K-S59119P, S59121K-S59121P, S59122K-S59122P, S59129K-S59129P, S59131K-S59131P, S59132K-S59132P, S59139K-S59139P, S59141K-S59141P, S59142K-S59142P, S59149K-S59149P, S59191K-S59191P, S59192K-S59192P, S59199K-S59199P, S59201K-S59201P, S59202K-S59202P, S59209K-S59209P, S59211K-S59211P, S59212K-S59212P, S59219K-S59219P, S59221K-S59221P, S59222K-S59222P, S59229K-S59229P, S59231K-S59231P, S59232K-S59232P, S59239K-S59239P, S59241K-S59241P, S59242K-S59242P, S59249K-S59249P, S59291K-S59291P, S59292K-S59292P, S59299K-S59299P, S62001K-S62001P, S62002K-S62002P, S62009K-S62009P, S62011K-S62011P, S62012K-S62012P, S62013K-S62013P, S62014K-S62014P, S62015K-S62015P, S62016K-S62016P, S62021K-S62021P, S62022K-S62022P, S62023K-S62023P, S62024K-S62024P, S62025K-S62025P, S62026K-S62026P, S62031K-S62031P, S62032K-

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62032P, S62033K-S62033P, S62034K-S62034P, S62035K-S62035P, S62036K-S62036P, S62101K-S62101P, S62102K-S62102P, S62109K-S62109P, S62111K-S62111P, S62112K-S62112P, S62113K-S62113P, S62114K-S62114P, S62115K-S62115P, S62116K-S62116P, S62121K-S62121P, S62122K-S62122P, S62123K-S62123P, S62124K-S62124P, S62125K-S62125P, S62126K-S62126P, S62131K-S62131P, S62132K-S62132P, S62133K-S62133P, S62134K-S62134P, S62135K-S62135P, S62136K-S62136P, S62141K-S62141P, S62142K-S62142P, S62143K-S62143P, S62144K-S62144P, S62145K-S62145P, S62146K-S62146P, S62151K-S62151P, S62152K-S62152P, S62153K-S62153P, S62154K-S62154P, S62155K-S62155P, S62156K-S62156P, S62161K-S62161P, S62162K-S62162P, S62163K-S62163P, S62164K-S62164P, S62165K-S62165P, S62166K-S62166P, S62171K-S62171P, S62172K-S62172P, S62173K-S62173P, S62174K-S62174P, S62175K-S62175P, S62176K-S62176P, S62181K-S62181P, S62182K-S62182P, S62183K-S62183P, S62184K-S62184P, S62185K-S62185P, S62186K-S62186P, S62201K-S62201P, S62202K-S62202P, S62209K-S62209P, S62211K-S62211P, S62212K-S62212P, S62213K-S62213P, S62221K-S62221P, S62222K-S62222P, S62223K-S62223P, S62224K-S62224P, S62225K-S62225P, S62226K-S62226P, S62231K-S62231P, S62232K-S62232P, S62233K-S62233P, S62234K-S62234P, S62235K-S62235P, S62236K-S62236P, S62241K-S62241P, S62242K-S62242P, S62243K-S62243P, S62244K-S62244P, S62245K-S62245P, S62246K-S62246P, S62251K-S62251P, S62252K-S62252P, S62253K-S62253P, S62254K-S62254P, S62255K-S62255P, S62256K-S62256P, S62291K-S62291P, S62292K-S62292P, S62299K-S62299P, S62300K-S62300P, S62301K-S62301P, S62302K-S62302P, S62303K-S62303P, S62304K-S62304P, S62305K-S62305P, S62306K-S62306P, S62307K-S62307P, S62308K-S62308P, S62309K-S62309P, S62310K-S62310P, S62311K-S62311P, S62312K-S62312P, S62313K-S62313P, S62314K-S62314P, S62315K-S62315P, S62316K-S62316P, S62317K-S62317P, S62318K-S62318P, S62319K-S62319P, S62320K-S62320P, S62321K-S62321P, S62322K-S62322P, S62323K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62323P, S62324K-S62324P, S62325K-S62325P, S62326K-S62326P, S62327K-S62327P, S62328K-S62328P, S62329K-S62329P, S62330K-S62330P, S62331K-S62331P, S62332K-S62332P, S62333K-S62333P, S62334K-S62334P, S62335K-S62335P, S62336K-S62336P, S62337K-S62337P, S62338K-S62338P, S62339K-S62339P, S62340K-S62340P, S62341K-S62341P, S62342K-S62342P, S62343K-S62343P, S62344K-S62344P, S62345K-S62345P, S62346K-S62346P, S62347K-S62347P, S62348K-S62348P, S62349K-S62349P, S62350K-S62350P, S62351K-S62351P, S62352K-S62352P, S62353K-S62353P, S62354K-S62354P, S62355K-S62355P, S62356K-S62356P, S62357K-S62357P, S62358K-S62358P, S62359K-S62359P, S62360K-S62360P, S62361K-S62361P, S62362K-S62362P, S62363K-S62363P, S62364K-S62364P, S62365K-S62365P, S62366K-S62366P, S62367K-S62367P, S62368K-S62368P, S62369K-S62369P, S62390K-S62390P, S62391K-S62391P, S62392K-S62392P, S62393K-S62393P, S62394K-S62394P, S62395K-S62395P, S62396K-S62396P, S62397K-S62397P, S62398K-S62398P, S62399K-S62399P, S62501K-S62501P, S62502K-S62502P, S62509K-S62509P, S62511K-S62511P, S62512K-S62512P, S62513K-S62513P, S62514K-S62514P, S62515K-S62515P, S62516K-S62516P, S62521K-S62521P, S62522K-S62522P, S62523K-S62523P, S62524K-S62524P, S62525K-S62525P, S62526K-S62526P, S62600K-S62600P, S62601K-S62601P, S62602K-S62602P, S62603K-S62603P, S62604K-S62604P, S62605K-S62605P, S62606K-S62606P, S62607K-S62607P, S62608K-S62608P, S62609K-S62609P, S62610K-S62610P, S62611K-S62611P, S62612K-S62612P, S62613K-S62613P, S62614K-S62614P, S62615K-S62615P, S62616K-S62616P, S62617K-S62617P, S62618K-S62618P, S62619K-S62619P, S62620K-S62620P, S62621K-S62621P, S62622K-S62622P, S62623K-S62623P, S62624K-S62624P, S62625K-S62625P, S62626K-S62626P, S62627K-S62627P, S62628K-S62628P, S62629K-S62629P, S62630K-S62630P, S62631K-S62631P, S62632K-S62632P, S62633K-S62633P, S62634K-S62634P, S62635K-S62635P, S62636K-S62636P, S62637K-S62637P, S62638K-S62638P, S62639K-S62639P, S62640K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62640P, S62641K-S62641P, S62642K-S62642P, S62643K-S62643P, S62644K-S62644P, S62645K-S62645P, S62646K-S62646P, S62647K-S62647P, S62648K-S62648P, S62649K-S62649P, S62650K-S62650P, S62651K-S62651P, S62652K-S62652P, S62653K-S62653P, S62654K-S62654P, S62655K-S62655P, S62656K-S62656P, S62657K-S62657P, S62658K-S62658P, S62659K-S62659P, S62660K-S62660P, S62661K-S62661P, S62662K-S62662P, S62663K-S62663P, S62664K-S62664P, S62665K-S62665P, S62666K-S62666P, S62667K-S62667P, S62668K-S62668P, S62669K-S62669P, S6290XK-S6290XP, S6291XK-S6291XP, S6292XK-S6292XP, S72001K-S72001R, S72002K-S72002R, S72009K-S72009R, S72011K-S72011R, S72012K-S72012R, S72019K-S72019R, S72021K-S72021R, S72022K-S72022R, S72023K-S72023R, S72024K-S72024R, S72025K-S72025R, S72026K-S72026R, S72031K-S72031R, S72032K-S72032R, S72033K-S72033R, S72034K-S72034R, S72035K-S72035R, S72036K-S72036R, S72041K-S72041R, S72042K-S72042R, S72043K-S72043R, S72044K-S72044R, S72045K-S72045R, S72046K-S72046R, S72051K-S72051R, S72052K-S72052R, S72059K-S72059R, S72061K-S72061R, S72062K-S72062R, S72063K-S72063R, S72064K-S72064R, S72065K-S72065R, S72066K-S72066R, S72091K-S72091R, S72092K-S72092R, S72099K-S72099R, S72101K-S72101R, S72102K-S72102R, S72109K-S72109R, S72111K-S72111R, S72112K-S72112R, S72113K-S72113R, S72114K-S72114R, S72115K-S72115R, S72116K-S72116R, S72121K-S72121R, S72122K-S72122R, S72123K-S72123R, S72124K-S72124R, S72125K-S72125R, S72126K-S72126R, S72131K-S72131R, S72132K-S72132R, S72133K-S72133R, S72134K-S72134R, S72135K-S72135R, S72136K-S72136R, S72141K-S72141R, S72142K-S72142R, S72143K-S72143R, S72144K-S72144R, S72145K-S72145R, S72146K-S72146R, S7221XK-S7221XR, S7222XK-S7222XR, S7223XK-S7223XR, S7224XK-S7224XR, S7225XK-S7225XR, S7226XK-S7226XR, S72301K-S72301R, S72302K-S72302R, S72309K-S72309R, S72321K-S72321R, S72322K-S72322R, S72323K-S72323R, S72324K-S72324R, S72325K-S72325R, S72326K-S72326R, S72331K-S72331R, S72332K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S72332R, S72333K-S72333R, S72334K-S72334R, S72335K-S72335R, S72336K-S72336R, S72341K-S72341R, S72342K-S72342R, S72343K-S72343R, S72344K-S72344R, S72345K-S72345R, S72346K-S72346R, S72351K-S72351R, S72352K-S72352R, S72353K-S72353R, S72354K-S72354R, S72355K-S72355R, S72356K-S72356R, S72361K-S72361R, S72362K-S72362R, S72363K-S72363R, S72364K-S72364R, S72365K-S72365R, S72366K-S72366R, S72391K-S72391R, S72392K-S72392R, S72399K-S72399R, S72401K-S72401R, S72402K-S72402R, S72409K-S72409R, S72411K-S72411R, S72412K-S72412R, S72413K-S72413R, S72414K-S72414R, S72415K-S72415R, S72416K-S72416R, S72421K-S72421R, S72422K-S72422R, S72423K-S72423R, S72424K-S72424R, S72425K-S72425R, S72426K-S72426R, S72431K-S72431R, S72432K-S72432R, S72433K-S72433R, S72434K-S72434R, S72435K-S72435R, S72436K-S72436R, S72441K-S72441R, S72442K-S72442R, S72443K-S72443R, S72444K-S72444R, S72445K-S72445R, S72446K-S72446R, S72451K-S72451R, S72452K-S72452R, S72453K-S72453R, S72454K-S72454R, S72455K-S72455R, S72456K-S72456R, S72461K-S72461R, S72462K-S72462R, S72463K-S72463R, S72464K-S72464R, S72465K-S72465R, S72466K-S72466R, S72471K-S72471P, S72472K-S72472P, S72479K-S72479P, S72491K-S72491R, S72492K-S72492R, S72499K-S72499R, S728X1K-S728X1R, S728X2K-S728X2R, S728X9K-S728X9R, S7290XK-S7290XR, S7291XK-S7291XR, S7292XK-S7292XR, S79001K-S79001P, S79002K-S79002P, S79009K-S79009P, S79011K-S79011P, S79012K-S79012P, S79019K-S79019P, S79091K-S79091P, S79092K-S79092P, S79099K-S79099P, S79101K-S79101P, S79102K-S79102P, S79109K-S79109P, S79111K-S79111P, S79112K-S79112P, S79119K-S79119P, S79121K-S79121P, S79122K-S79122P, S79129K-S79129P, S79131K-S79131P, S79132K-S79132P, S79139K-S79139P, S79141K-S79141P, S79142K-S79142P, S79149K-S79149P, S79191K-S79191P, S79192K-S79192P, S79199K-S79199P, S82001K-S82001R, S82002K-S82002R, S82009K-S82009R, S82011K-S82011R, S82012K-S82012R, S82013K-S82013R, S82014K-S82014R, S82015K-S82015R, S82016K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S82016R, S82021K-S82021R, S82022K-S82022R, S82023K-S82023R, S82024K-S82024R, S82025K-S82025R, S82026K-S82026R, S82031K-S82031R, S82032K-S82032R, S82033K-S82033R, S82034K-S82034R, S82035K-S82035R, S82036K-S82036R, S82041K-S82041R, S82042K-S82042R, S82043K-S82043R, S82044K-S82044R, S82045K-S82045R, S82046K-S82046R, S82091K-S82091R, S82092K-S82092R, S82099K-S82099R, S82101K-S82101R, S82102K-S82102R, S82109K-S82109R, S82111K-S82111R, S82112K-S82112R, S82113K-S82113R, S82114K-S82114R, S82115K-S82115R, S82116K-S82116R, S82121K-S82121R, S82122K-S82122R, S82123K-S82123R, S82124K-S82124R, S82125K-S82125R, S82126K-S82126R, S82131K-S82131R, S82132K-S82132R, S82133K-S82133R, S82134K-S82134R, S82135K-S82135R, S82136K-S82136R, S82141K-S82141R, S82142K-S82142R, S82143K-S82143R, S82144K-S82144R, S82145K-S82145R, S82146K-S82146R, S82151K-S82151R, S82152K-S82152R, S82153K-S82153R, S82154K-S82154R, S82155K-S82155R, S82156K-S82156R, S82161K-S82161P, S82162K-S82162P, S82169K-S82169P, S82191K-S82191R, S82192K-S82192R, S82199K-S82199R, S82201K-S82201R, S82202K-S82202R, S82209K-S82209R, S82221K-S82221R, S82222K-S82222R, S82223K-S82223R, S82224K-S82224R, S82225K-S82225R, S82226K-S82226R, S82231K-S82231R, S82232K-S82232R, S82233K-S82233R, S82234K-S82234R, S82235K-S82235R, S82236K-S82236R, S82241K-S82241R, S82242K-S82242R, S82243K-S82243R, S82244K-S82244R, S82245K-S82245R, S82246K-S82246R, S82251K-S82251R, S82252K-S82252R, S82253K-S82253R, S82254K-S82254R, S82255K-S82255R, S82256K-S82256R, S82261K-S82261R, S82262K-S82262R, S82263K-S82263R, S82264K-S82264R, S82265K-S82265R, S82266K-S82266R, S82291K-S82291R, S82292K-S82292R, S82299K-S82299R, S82301K-S82301R, S82302K-S82302R, S82309K-S82309R, S82311K-S82311P, S82312K-S82312P, S82319K-S82319P, S82391K-S82391R, S82392K-S82392R, S82399K-S82399R, S82401K-S82401R, S82402K-S82402R, S82409K-S82409R, S82421K-S82421R, S82422K-S82422R, S82423K-S82423R, S82424K-

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S82424R, S82425K-S82425R, S82426K-S82426R, S82431K-S82431R, S82432K-S82432R, S82433K-S82433R, S82434K-S82434R, S82435K-S82435R, S82436K-S82436R, S82441K-S82441R, S82442K-S82442R, S82443K-S82443R, S82444K-S82444R, S82445K-S82445R, S82446K-S82446R, S82451K-S82451R, S82452K-S82452R, S82453K-S82453R, S82454K-S82454R, S82455K-S82455R, S82456K-S82456R, S82461K-S82461R, S82462K-S82462R, S82463K-S82463R, S82464K-S82464R, S82465K-S82465R, S82466K-S82466R, S82491K-S82491R, S82492K-S82492R, S82499K-S82499R, S8251XK-S8251XR, S8252XK-S8252XR, S8253XK-S8253XR, S8254XK-S8254XR, S8255XK-S8255XR, S8256XK-S8256XR, S8261XK-S8261XR, S8262XK-S8262XR, S8263XK-S8263XR, S8264XK-S8264XR, S8265XK-S8265XR, S8266XK-S8266XR, S82811K-S82811P, S82812K-S82812P, S82819K-S82819P, S82821K-S82821P, S82822K-S82822P, S82829K-S82829P, S82831K-S82831R, S82832K-S82832R, S82839K-S82839R, S82841K-S82841R, S82842K-S82842R, S82843K-S82843R, S82844K-S82844R, S82845K-S82845R, S82846K-S82846R, S82851K-S82851R, S82852K-S82852R, S82853K-S82853R, S82854K-S82854R, S82855K-S82855R, S82856K-S82856R, S82861K-S82861R, S82862K-S82862R, S82863K-S82863R, S82864K-S82864R, S82865K-S82865R, S82866K-S82866R, S82871K-S82871R, S82872K-S82872R, S82873K-S82873R, S82874K-S82874R, S82875K-S82875R, S82876K-S82876R, S82891K-S82891R, S82892K-S82892R, S82899K-S82899R, S8290XK-S8290XR, S8291XK-S8291XR, S8292XK-S8292XR, S89001K-S89001P, S89002K-S89002P, S89009K-S89009P, S89011K-S89011P, S89012K-S89012P, S89019K-S89019P, S89021K-S89021P, S89022K-S89022P, S89029K-S89029P, S89031K-S89031P, S89032K-S89032P, S89039K-S89039P, S89041K-S89041P, S89042K-S89042P, S89049K-S89049P, S89091K-S89091P, S89092K-S89092P, S89099K-S89099P, S89101K-S89101P, S89102K-S89102P, S89109K-S89109P, S89111K-S89111P, S89112K-S89112P, S89119K-S89119P, S89121K-S89121P, S89122K-S89122P, S89129K-S89129P, S89131K-S89131P, S89132K-S89132P, S89139K-S89139P, S89141K-S89141P, S89142K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S89142P, S89149K-S89149P, S89191K-S89191P, S89192K-S89192P, S89199K-S89199P, S89201K-S89201P, S89202K-S89202P, S89209K-S89209P, S89211K-S89211P, S89212K-S89212P, S89219K-S89219P, S89221K-S89221P, S89222K-S89222P, S89229K-S89229P, S89291K-S89291P, S89292K-S89292P, S89299K-S89299P, S89301K-S89301P, S89302K-S89302P, S89309K-S89309P, S89311K-S89311P, S89312K-S89312P, S89319K-S89319P, S89321K-S89321P, S89322K-S89322P, S89329K-S89329P, S89391K-S89391P, S89392K-S89392P, S89399K-S89399P, S92001K-S92001P, S92002K-S92002P, S92009K-S92009P, S92011K-S92011P, S92012K-S92012P, S92013K-S92013P, S92014K-S92014P, S92015K-S92015P, S92016K-S92016P, S92021K-S92021P, S92022K-S92022P, S92023K-S92023P, S92024K-S92024P, S92025K-S92025P, S92026K-S92026P, S92031K-S92031P, S92032K-S92032P, S92033K-S92033P, S92034K-S92034P, S92035K-S92035P, S92036K-S92036P, S92041K-S92041P, S92042K-S92042P, S92043K-S92043P, S92044K-S92044P, S92045K-S92045P, S92046K-S92046P, S92051K-S92051P, S92052K-S92052P, S92053K-S92053P, S92054K-S92054P, S92055K-S92055P, S92056K-S92056P, S92061K-S92061P, S92062K-S92062P, S92063K-S92063P, S92064K-S92064P, S92065K-S92065P, S92066K-S92066P, S92101K-S92101P, S92102K-S92102P, S92109K-S92109P, S92111K-S92111P, S92112K-S92112P, S92113K-S92113P, S92114K-S92114P, S92115K-S92115P, S92116K-S92116P, S92121K-S92121P, S92122K-S92122P, S92123K-S92123P, S92124K-S92124P, S92125K-S92125P, S92126K-S92126P, S92131K-S92131P, S92132K-S92132P, S92133K-S92133P, S92134K-S92134P, S92135K-S92135P, S92136K-S92136P, S92141K-S92141P, S92142K-S92142P, S92143K-S92143P, S92144K-S92144P, S92145K-S92145P, S92146K-S92146P, S92151K-S92151P, S92152K-S92152P, S92153K-S92153P, S92154K-S92154P, S92155K-S92155P, S92156K-S92156P, S92191K-S92191P, S92192K-S92192P, S92199K-S92199P, S92201K-S92201P, S92202K-S92202P, S92209K-S92209P, S92211K-S92211P, S92212K-S92212P, S92213K-S92213P, S92214K-S92214P, S92215K-S92215P, S92216K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S92216P, S92221K-S92221P, S92222K-S92222P, S92223K-S92223P, S92224K-S92224P, S92225K-S92225P, S92226K-S92226P, S92231K-S92231P, S92232K-S92232P, S92233K-S92233P, S92234K-S92234P, S92235K-S92235P, S92236K-S92236P, S92241K-S92241P, S92242K-S92242P, S92243K-S92243P, S92244K-S92244P, S92245K-S92245P, S92246K-S92246P, S92251K-S92251P, S92252K-S92252P, S92253K-S92253P, S92254K-S92254P, S92255K-S92255P, S92256K-S92256P, S92301K-S92301P, S92302K-S92302P, S92309K-S92309P, S92311K-S92311P, S92312K-S92312P, S92313K-S92313P, S92314K-S92314P, S92315K-S92315P, S92316K-S92316P, S92321K-S92321P, S92322K-S92322P, S92323K-S92323P, S92324K-S92324P, S92325K-S92325P, S92326K-S92326P, S92331K-S92331P, S92332K-S92332P, S92333K-S92333P, S92334K-S92334P, S92335K-S92335P, S92336K-S92336P, S92341K-S92341P, S92342K-S92342P, S92343K-S92343P, S92344K-S92344P, S92345K-S92345P, S92346K-S92346P, S92351K-S92351P, S92352K-S92352P, S92353K-S92353P, S92354K-S92354P, S92355K-S92355P, S92356K-S92356P, S92401K-S92401P, S92402K-S92402P, S92403K-S92403P, S92404K-S92404P, S92405K-S92405P, S92406K-S92406P, S92411K-S92411P, S92412K-S92412P, S92413K-S92413P, S92414K-S92414P, S92415K-S92415P, S92416K-S92416P, S92421K-S92421P, S92422K-S92422P, S92423K-S92423P, S92424K-S92424P, S92425K-S92425P, S92426K-S92426P, S92491K-S92491P, S92492K-S92492P, S92499K-S92499P, S92501K-S92501P, S92502K-S92502P, S92503K-S92503P, S92504K-S92504P, S92505K-S92505P, S92506K-S92506P, S92511K-S92511P, S92512K-S92512P, S92513K-S92513P, S92514K-S92514P, S92515K-S92515P, S92516K-S92516P, S92521K-S92521P, S92522K-S92522P, S92523K-S92523P, S92524K-S92524P, S92525K-S92525P, S92526K-S92526P, S92531K-S92531P, S92532K-S92532P, S92533K-S92533P, S92534K-S92534P, S92535K-S92535P, S92536K-S92536P, S92591K-S92591P, S92592K-S92592P, S92599K-S92599P, S92811K-S92811P, S92812K-S92812P, S92819K-S92819P, S92901K-S92901P, S92902K-S92902P, S92909K-S92909P, S92911K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S92911P, S92912K-S92912P, S92919K-S92919P, S99001K-S99001P, S99002K-S99002P, S99009K-S99009P, S99011K-S99011P, S99012K-S99012P, S99019K-S99019P, S99021K-S99021P, S99022K-S99022P, S99029K-S99029P, S99031K-S99031P, S99032K-S99032P, S99039K-S99039P, S99041K-S99041P, S99042K-S99042P, S99049K-S99049P, S99091K-S99091P, S99092K-S99092P, S99099K-S99099P, S99101K-S99101P, S99102K-S99102P, S99109K-S99109P, S99111K-S99111P, S99112K-S99112P, S99119K-S99119P, S99121K-S99121P, S99122K-S99122P, S99129K-S99129P, S99131K-S99131P, S99132K-S99132P, S99139K-S99139P, S99141K-S99141P, S99142K-S99142P, S99149K-S99149P, S99191K-S99191P, S99192K-S99192P, S99199K-S99199P, S99201K-S99201P, S99202K-S99202P, S99209K-S99209P, S99211K-S99211P, S99212K-S99212P, S99219K-S99219P, S99221K-S99221P, S99222K-S99222P, S99229K-S99229P, S99231K-S99231P, S99232K-S99232P, S99239K-S99239P, S99241K-S99241P, S99242K-S99242P, S99249K-S99249P, S99291K-S99291P, S99292K-S99292P, S99299K-S99299P, T800XXA, T801XXA, T80211A, T80212A, T80218A, T80219A, T8022XA, T8029XA, T8030XA, T80310A, T80311A, T80319A, T8039XA, T8040XA, T80410A, T80411A, T80419A, T8049XA, T8051XA, T8052XA, T8059XA, T8061XA, T8062XA, T8069XA, T80810A, T80818A, T8089XA, T8090XA, T80910A, T80911A, T80919A, T8092XA, T80A0XA, T80A10A, T80A11A, T80A19A, T80A9XA, T8181XA, T83711A, T83721A, T880XXA, T881XXA, T884XXA, T887XXA, T888XXA, T889XXA
49.	Other conditions not related to smoking (OTHC_TBCO)	OTHC except 218, 256, 365, 366, 368, 370, 440-442, 443, 460-466, 473, 478, 521-523, 527, 529, 530-533, 627, 786	n.a	n.a
50.	Other conditions made worse by smoking (OTHC_TBCO_I NTR)	277, 487, 488, 517, 500-516,	n.a	n.a
51.	Other conditions not related to obesity (OTHC_OBES)	OTHC except 274, 327, 440-442, 451, 454, 530, 539, 574, 717, 780, 786-788	n.a	n.a
52	Other conditions not	OTHC except 365,	OTHC except 365, 369,	A001-A329, A35-A480, A482-A519, A5210-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
	related to diabetes (OTHC_DIAB)	369, 440-442	440-442	B199, B250-B780, B787-B999, C880, C965-C966, D100-D219, D241-D369, D472, D474, D481, D500-D77, D800-E099, E103521-E103549, E1041, E1043-E1052, E10610, E10630, E113521-E113549, E1141, E1143-E1152, E11610, E11630, E1300-E35, E40-E649, E700-F88-F89, G000-G131, G14-G26, G3181-G3182, G319-G4489, G453, G4700-G909, G911, G913, G918-G936, G9381-G939, G950-G969, G971, G9741, G9782-H36, H4040X0, H4300-H539, H5500-H579, H5940-H5943, H6000-H95199, I280-I339, I39-I41, I6000-I629, I670, I673, I6783, I70361-I70369, I70461-I70469, I70561-I70569, I70661-I70669, I70761-I70769, I7300-I789, I791-I8393, I87001-I96, I972, I998-J1189, J129, J17, J181-J182, J200-J40, J60-J668, J680-J953, J95811-J95822, J9584 J9600-K67, K6812-K912, K915, K91850-K91858, K9189-K9589, L081, L444, L600-L660, L662-L663, L668-L689, L7211-L7212, L731, L738-L739, L946, M0000, M0540-M0559, M0760-M0769, M1000-M119, M1220-M1249, M1280, M1460-M1489, M1A00X0-M1A09X1, M1A20X0-M25776, M2580-M352, M354-M4319, M433-M435X9, M438X1-M439, M4620-M4639, M4840XA, M4841XA, M4842XA, M4843XA, M4844XA, M4845XA, M4846XA, M4847XA, M4848XA, M4850XA, M4851XA, M4852XA, M4853XA, M4854XA, M4855XA, M4856XA, M4857XA, M4858XA, M532X1-M532X6, M532X9, M5410, M5418, M60000-M6282, M62831-M8000XP, M80011A-M80011P, M80012A-M80012P, M80019A-M80019P, M80021A-M80021P, M80022A-M80022P, M80029A-M80029P, M80031A-M80031P, M80032A-M80032P, M80039A-M80039P, M80041A-M80041P, M80042A-M80042P, M80049A-M80049P, M80051A-M80051P, M80052A-M80052P, M80059A-M80059P, M80061A-M80061P, M80062A-M80062P, M80069A-M80069P, M80071A-M80071P, M80072A-M80072P, M80079A-M80079P, M8008XA-M8008XP, M8080XA-M8080XP, M80811A-M80811P, M80812A-M80812P, M80819A-M80819P, M80821A-M80821P, M80822A-M80822P, M80829A-M80829P, M80831A-M80831P, M80832A-M80832P, M80839A-M80839P, M80841A-M80841P, M80842A-M80842P, M80849A-M80849P, M80851A-M80851P, M80852A-M80852P, M80859A-M80859P, M80861A-M80861P, M80862A-M80862P, M80869A-M80869P, M80871A-M80871P, M80872A-M80872P, M80879A-M80879P, M8088XA-M8088XP, M810-M8430XP, M84311A-M84311P, M84312A-M84312P, M84319A-M84319P, M84321A-M84321P, M84322A-M84322P, M84329A-M84329P, M84331A-M84331P, M84332A-M84332P, M84333A-M84333P, M84334A-M84334P, M84339A-M84339P, M84341A-M84341P, M84342A-M84342P, M84343A-M84343P, M84344A-M84344P, M84345A-M84345P, M84346A-M84346P, M84350A-M84350P, M84351A-M84351P, M84352A-M84352P, M84353A-M84353P, M84359A-M84359P, M84361A-M84361P, M84362A-M84362P, M84363A-M84363P, M84364A-M84364P, M84369A-M84369P, M84371A-M84371P, M84372A-M84372P, M84373A-M84373P, M84374A-M84374P, M84375A-M84375P,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				M84376A-M84376P, M84377A-M84377P, M84378A-M84378P, M84379A-M84379P, M8438XA-M8438XP, M8440XA-M8440XP, M84411A-M84411P, M84412A-M84412P, M84419A-M84419P, M84421A-M84421P, M84422A-M84422P, M84429A-M84429P, M84431A-M84431P, M84432A-M84432P, M84433A-M84433P, M84434A-M84434P, M84439A-M84439P, M84441A-M84441P, M84442A-M84442P, M84443A-M84443P, M84444A-M84444P, M84445A-M84445P, M84446A-M84446P, M84451A-M84451P, M84452A-M84452P, M84453A-M84453P, M84454A-M84454P, M84459A-M84459P, M84461A-M84461P, M84462A-M84462P, M84463A-M84463P, M84464A-M84464P, M84469A-M84469P, M84471A-M84471P, M84472A-M84472P, M84473A-M84473P, M84474A-M84474P, M84475A-M84475P, M84476A-M84476P, M84477A-M84477P, M84478A-M84478P, M84479A-M84479P, M8448XA-M8448XP, M8450XA-M8450XP, M84511A-M84511P, M84512A-M84512P, M84519A-M84519P, M84521A-M84521P, M84522A-M84522P, M84529A-M84529P, M84531A-M84531P, M84532A-M84532P, M84533A-M84533P, M84534A-M84534P, M84539A-M84539P, M84541A-M84541P, M84542A-M84542P, M84549A-M84549P, M84550A-M84550P, M84551A-M84551P, M84552A-M84552P, M84553A-M84553P, M84559A-M84559P, M84561A-M84561P, M84562A-M84562P, M84563A-M84563P, M84564A-M84564P, M84569A-M84569P, M84571A-M84571P, M84572A-M84572P, M84573A-M84573P, M84574A-M84574P, M84575A-M84575P, M84576A-M84576P, M8458XA-M8458XP, M8460XA-M8460XP, M84611A-M84611P, M84612A-M84612P, M84619A-M84619P, M84621A-M84621P, M84622A-M84622P, M84629A-M84629P, M84631A-M84631P, M84632A-M84632P, M84633A-M84633P, M84634A-M84634P, M84639A-M84639P, M84641A-M84641P, M84642A-M84642P, M84649A-M84649P, M84650A-M84650P, M84651A-M84651P, M84652A-M84652P, M84653A-M84653P, M84659A-M84659P, M84661A-M84661P, M84662A-M84662P, M84663A-M84663P, M84664A-M84664P, M84669A-M84669P, M84671A-M84671P, M84672A-M84672P, M84673A-M84673P, M84674A-M84674P, M84675A-M84675P, M84676A-M84676P, M8468XA-M8468XP, M84750A-M84750P, M84751A-M84751P, M84752A-M84752P, M84753A-M84753P, M84754A-M84754P, M84755A-M84755P, M84756A-M84756P, M84757A-M84757P, M84758A-M84758P, M84759A-M84759P, M8480-M959, M962-M965, M9900-M9909, M9980-N16, N171-N172, N200-N23, N270-N981, N99110-N99518, N9983, O280, P09, P293-P2938, Q000-Q189, Q250-Q849, Q851-Q859, Q870-R000, R002-R162, R180-R198, R220-R222, R250-R369, R390-R450, R453-R454, R4583-R599, R61-R64, R6521-R99, S020XXK, S02101K, S02102K, S02109K, S0210XK, S02110K, S02111K, S02112K, S02113K, S02118K, S02119K, S0211AK, S0211BK, S0211CK, S0211DK, S0211EK, S0211FK, S0211GK, S0211HK, S0219XK, S022XXK, S0230XK, S0231XK, S0232XK, S023XXK, S02400K, S02401K, S02402K, S0240AK, S0240BK, S0240CK, S0240DK,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S0240EK, S0240FK, S02411K, S02412K, S02413K, S0242XK, S025XXK, S02600K, S02601K, S02602K, S02609K, S02610K, S02611K, S02612K, S0261XK, S02620K, S02621K, S02622K, S0262XK, S02630K, S02631K, S02632K, S0263XK, S02640K, S02641K, S02642K, S0264XK, S02650K, S02651K, S02652K, S0265XK, S0266XK, S02670K, S02671K, S02672K, S0267XK, S0269XK, S0280XK, S0281XK, S0282XK, S028XXK, S0291XK, S0292XK, S061X0A, S061X1A, S061X2A, S061X3A, S061X4A, S061X5A, S061X6A, S061X7A, S061X8A, S061X9A, S12000K, S12001K, S1201XK, S1202XK, S12030K, S12031K, S12040K, S12041K, S12090K, S12091K, S12100K, S12101K, S12110K, S12111K, S12112K, S12120K, S12121K, S12130K, S12131K, S1214XK, S12150K, S12151K, S12190K, S12191K, S12200K, S12201K, S12230K, S12231K, S1224XK, S12250K, S12251K, S12290K, S12291K, S12300K, S12301K, S12330K, S12331K, S1234XK, S12350K, S12351K, S12390K, S12391K, S12400K, S12401K, S12430K, S12431K, S1244XK, S12450K, S12451K, S12490K, S12491K, S12500K, S12501K, S12530K, S12531K, S1254XK, S12550K, S12551K, S12590K, S12591K, S12600K, S12601K, S12630K, S12631K, S1264XK, S12650K, S12651K, S12690K, S12691K, S22000K, S22001K, S22002K, S22008K, S22009K, S22010K, S22011K, S22012K, S22018K, S22019K, S22020K, S22021K, S22022K, S22028K, S22029K, S22030K, S22031K, S22032K, S22038K, S22039K, S22040K, S22041K, S22042K, S22048K, S22049K, S22050K, S22051K, S22052K, S22058K, S22059K, S22060K, S22061K, S22062K, S22068K, S22069K, S22070K, S22071K, S22072K, S22078K, S22079K, S22080K, S22081K, S22082K, S22088K, S22089K, S2220XK, S2221XK, S2222XK, S2223XK, S2224XK, S2231XK, S2232XK, S2239XK, S2241XK, S2242XK, S2243XK, S2249XK, S225XXK, S229XXK, S32000K, S32001K, S32002K, S32008K, S32009K, S32010K, S32011K, S32012K, S32018K, S32019K, S32020K, S32021K, S32022K, S32028K, S32029K, S32030K, S32031K, S32032K, S32038K, S32039K, S32040K, S32041K, S32042K, S32048K, S32049K, S32050K, S32051K, S32052K, S32058K, S32059K, S3210XK, S32110K, S32111K, S32112K, S32119K, S32120K, S32121K, S32122K, S32129K, S32130K, S32131K, S32132K, S32139K, S3214XK, S3215XK, S3216XK, S3217XK, S3219XK, S322XXK, S32301K, S32302K, S32309K, S32311K, S32312K, S32313K, S32314K, S32315K, S32316K, S32391K, S32392K, S32399K, S32401K, S32402K, S32409K, S32411K, S32412K, S32413K, S32414K, S32415K, S32416K, S32421K, S32422K, S32423K, S32424K, S32425K, S32426K, S32431K, S32432K, S32433K, S32434K, S32435K, S32436K, S32441K, S32442K, S32443K, S32444K, S32445K, S32446K, S32451K, S32452K, S32453K, S32454K, S32455K, S32456K, S32461K, S32462K, S32463K, S32464K, S32465K, S32466K, S32471K, S32472K, S32473K, S32474K, S32475K, S32476K, S32481K, S32482K, S32483K, S32484K, S32485K, S32486K, S32491K, S32492K, S32499K, S32501K, S32502K, S32509K, S32511K,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S32512K, S32519K, S32591K, S32592K, S32599K, S32601K, S32602K, S32609K, S32611K, S32612K, S32613K, S32614K, S32615K, S32616K, S32691K, S32692K, S32699K, S32810K, S32811K, S3282XK, S3289XK, S329XXK, S42001K-S42001P, S42002K-S42002P, S42009K-S42009P, S42011K-S42011P, S42012K-S42012P, S42013K-S42013P, S42014K-S42014P, S42015K-S42015P, S42016K-S42016P, S42017K-S42017P, S42018K-S42018P, S42019K-S42019P, S42021K-S42021P, S42022K-S42022P, S42023K-S42023P, S42024K-S42024P, S42025K-S42025P, S42026K-S42026P, S42031K-S42031P, S42032K-S42032P, S42033K-S42033P, S42034K-S42034P, S42035K-S42035P, S42036K-S42036P, S42101K-S42101P, S42102K-S42102P, S42109K-S42109P, S42111K-S42111P, S42112K-S42112P, S42113K-S42113P, S42114K-S42114P, S42115K-S42115P, S42116K-S42116P, S42121K-S42121P, S42122K-S42122P, S42123K-S42123P, S42124K-S42124P, S42125K-S42125P, S42126K-S42126P, S42131K-S42131P, S42132K-S42132P, S42133K-S42133P, S42134K-S42134P, S42135K-S42135P, S42136K-S42136P, S42141K-S42141P, S42142K-S42142P, S42143K-S42143P, S42144K-S42144P, S42145K-S42145P, S42146K-S42146P, S42151K-S42151P, S42152K-S42152P, S42153K-S42153P, S42154K-S42154P, S42155K-S42155P, S42156K-S42156P, S42191K-S42191P, S42192K-S42192P, S42199K-S42199P, S42201K-S42201P, S42202K-S42202P, S42209K-S42209P, S42211K-S42211P, S42212K-S42212P, S42213K-S42213P, S42214K-S42214P, S42215K-S42215P, S42216K-S42216P, S42221K-S42221P, S42222K-S42222P, S42223K-S42223P, S42224K-S42224P, S42225K-S42225P, S42226K-S42226P, S42231K-S42231P, S42232K-S42232P, S42239K-S42239P, S42241K-S42241P, S42242K-S42242P, S42249K-S42249P, S42251K-S42251P, S42252K-S42252P, S42253K-S42253P, S42254K-S42254P, S42255K-S42255P, S42256K-S42256P, S42261K-S42261P, S42262K-S42262P, S42263K-S42263P, S42264K-S42264P, S42265K-S42265P, S42266K-S42266P, S42271K-S42271P, S42272K-S42272P, S42279K-S42279P, S42291K-S42291P, S42292K-S42292P, S42293K-S42293P, S42294K-S42294P, S42295K-S42295P, S42296K-S42296P, S42301K-S42301P, S42302K-S42302P, S42309K-S42309P, S42311K-S42311P, S42312K-S42312P, S42319K-S42319P, S42321K-S42321P, S42322K-S42322P, S42323K-S42323P, S42324K-S42324P, S42325K-S42325P, S42326K-S42326P, S42331K-S42331P, S42332K-S42332P, S42333K-S42333P, S42334K-S42334P, S42335K-S42335P, S42336K-S42336P, S42341K-S42341P, S42342K-S42342P, S42343K-S42343P, S42344K-S42344P, S42345K-S42345P, S42346K-S42346P, S42351K-S42351P, S42352K-S42352P, S42353K-S42353P, S42354K-S42354P, S42355K-S42355P, S42356K-S42356P, S42361K-S42361P, S42362K-S42362P, S42363K-S42363P, S42364K-S42364P, S42365K-S42365P, S42366K-S42366P, S42391K-S42391P,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S42392K-S42392P, S42399K-S42399P, S42401K-S42401P, S42402K-S42402P, S42409K-S42409P, S42411K-S42411P, S42412K-S42412P, S42413K-S42413P, S42414K-S42414P, S42415K-S42415P, S42416K-S42416P, S42421K-S42421P, S42422K-S42422P, S42423K-S42423P, S42424K-S42424P, S42425K-S42425P, S42426K-S42426P, S42431K-S42431P, S42432K-S42432P, S42433K-S42433P, <u>S42434K-S42434P, S42435K-S42435P,</u> <u>S42436K-S42436P, S42441K-S42441P,</u> S42442K-S42442P, S42443K-S42443P, S42444K-S42444P, S42445K-S42445P, S42446K-S42446P, S42447K-S42447P, S42448K-S42448P, S42449K-S42449P, S42451K-S42451P, S42452K-S42452P, S42453K-S42453P, S42454K-S42454P, S42455K-S42455P, S42456K-S42456P, S42461K-S42461P, S42462K-S42462P, S42463K-S42463P, S42464K-S42464P, S42465K-S42465P, S42466K-S42466P, S42471K-S42471P, S42472K-S42472P, S42473K-S42473P, S42474K-S42474P, S42475K-S42475P, S42476K-S42476P, S42481K-S42481P, S42482K-S42482P, S42489K-S42489P, S42491K-S42491P, S42492K-S42492P, S42493K-S42493P, S42494K-S42494P, S42495K-S42495P, S42496K-S42496P, S4290XK-S4290XP, S4291XK-S4291XP, S4292XK-S4292XP, S49001K-S49001P, S49002K-S49002P, S49009K-S49009P, S49011K-S49011P, S49012K-S49012P, S49019K-S49019P, S49021K-S49021P, S49022K-S49022P, S49029K-S49029P, S49031K-S49031P, S49032K-S49032P, S49039K-S49039P, S49041K-S49041P, S49042K-S49042P, S49049K-S49049P, S49091K-S49091P, S49092K-S49092P, S49099K-S49099P, S49101K-S49101P, S49102K-S49102P, S49109K-S49109P, S49111K-S49111P, S49112K-S49112P, S49119K-S49119P, S49121K-S49121P, S49122K-S49122P, S49129K-S49129P, S49131K-S49131P, S49132K-S49132P, S49139K-S49139P, S49141K-S49141P, S49142K-S49142P, S49149K-S49149P, S49191K-S49191P, S49192K-S49192P, S49199K-S49199P, S52001K-S52001R, S52002K-S52002R, S52009K-S52009R, S52011K-S52011P, S52012K-S52012P, S52019K-S52019P, S52021K-S52021R, S52022K-S52022R, S52023K-S52023R, S52024K-S52024R, S52025K-S52025R, S52026K-S52026R, S52031K-S52031R, S52032K-S52032R, S52033K-S52033R, S52034K-S52034R, S52035K-S52035R, S52036K-S52036R, S52041K-S52041R, S52042K-S52042R, S52043K-S52043R, S52044K-S52044R, S52045K-S52045R, S52046K-S52046R, S52091K-S52091R, S52092K-S52092R, S52099K-S52099R, S52101K-S52101R, S52102K-S52102R, S52109K-S52109R, S52111K-S52111P, S52112K-S52112P, S52119K-S52119P, S52121K-S52121R, S52122K-S52122R, S52123K-S52123R, S52124K-S52124R, S52125K-S52125R, S52126K-S52126R, S52131K-S52131R, S52132K-S52132R, S52133K-S52133R, S52134K-S52134R, S52135K-S52135R, S52136K-S52136R, S52181K-S52181R, S52182K-S52182R, S52189K-S52189R, S52201K-S52201R, S52202K-S52202R, S52209K-S52209R, S52211K-S52211P,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S52212K-S52212P, S52219K-S52219P, S52221K-S52221R, S52222K-S52222R, S52223K-S52223R, S52224K-S52224R, S52225K-S52225R, S52226K-S52226R, S52231K-S52231R, S52232K-S52232R, S52233K-S52233R, S52234K-S52234R, S52235K-S52235R, S52236K-S52236R, S52241K-S52241R, S52242K-S52242R, S52243K-S52243R, S52244K-S52244R, S52245K-S52245R, S52246K-S52246R, S52251K-S52251R, S52252K-S52252R, S52253K-S52253R, S52254K-S52254R, S52255K-S52255R, S52256K-S52256R, S52261K-S52261R, S52262K-S52262R, S52263K-S52263R, S52264K-S52264R, S52265K-S52265R, S52266K-S52266R, S52271K-S52271R, S52272K-S52272R, S52279K-S52279R, S52281K-S52281R, S52282K-S52282R, S52283K-S52283R, S52291K-S52291R, S52292K-S52292R, S52299K-S52299R, S52301K-S52301R, S52302K-S52302R, S52309K-S52309R, S52311K-S52311P, S52312K-S52312P, S52319K-S52319P, S52321K-S52321R, S52322K-S52322R, S52323K-S52323R, S52324K-S52324R, S52325K-S52325R, S52326K-S52326R, S52331K-S52331R, S52332K-S52332R, S52333K-S52333R, S52334K-S52334R, S52335K-S52335R, S52336K-S52336R, S52341K-S52341R, S52342K-S52342R, S52343K-S52343R, S52344K-S52344R, S52345K-S52345R, S52346K-S52346R, S52351K-S52351R, S52352K-S52352R, S52353K-S52353R, S52354K-S52354R, S52355K-S52355R, S52356K-S52356R, S52361K-S52361R, S52362K-S52362R, S52363K-S52363R, S52364K-S52364R, S52365K-S52365R, S52366K-S52366R, S52371K-S52371R, S52372K-S52372R, S52379K-S52379R, <u>S52381K-S52381R, S52382K-S52382R,</u> <u>S52389K-S52389R, S52391K-S52391R,</u> S52392K-S52392R, S52399K-S52399R, S52501K-S52501R, S52502K-S52502R, S52509K-S52509R, S52511K-S52511R, S52512K-S52512R, S52513K-S52513R, S52514K-S52514R, S52515K-S52515R, S52516K-S52516R, S52521K-S52521P, S52522K-S52522P, S52529K-S52529P, S52531K-S52531R, S52532K-S52532R, S52539K-S52539R, S52541K-S52541R, S52542K-S52542R, S52549K-S52549R, S52551K-S52551R, S52552K-S52552R, S52559K-S52559R, S52561K-S52561R, S52562K-S52562R, S52569K-S52569R, S52571K-S52571R, S52572K-S52572R, S52579K-S52579R, S52591K-S52591R, S52592K-S52592R, S52599K-S52599R, S52601K-S52601R, S52602K-S52602R, S52609K-S52609R, S52611K-S52611R, S52612K-S52612R, S52613K-S52613R, S52614K-S52614R, S52615K-S52615R, S52616K-S52616R, S52621K-S52621P, S52622K-S52622P, S52629K-S52629P, S52691K-S52691R, S52692K-S52692R, S52699K-S52699R, S5290XK-S5290XR, S5291XK-S5291XR, S5292XK-S5292XR, S59001K-S59001P, S59002K-S59002P, S59009K-S59009P, S59011K-S59011P, S59012K-S59012P, S59019K-S59019P, S59021K-S59021P, S59022K-S59022P, S59029K-S59029P, S59031K-S59031P, S59032K-S59032P, S59039K-S59039P, S59041K-S59041P, S59042K-S59042P, S59049K-S59049P, S59091K-S59091P,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S59092K-S59092P, S59099K-S59099P, S59101K-S59101P, S59102K-S59102P, S59109K-S59109P, S59111K-S59111P, S59112K-S59112P, S59119K-S59119P, S59121K-S59121P, S59122K-S59122P, S59129K-S59129P, S59131K-S59131P, S59132K-S59132P, S59139K-S59139P, S59141K-S59141P, S59142K-S59142P, S59149K-S59149P, S59191K-S59191P, S59192K-S59192P, S59199K-S59199P, S59201K-S59201P, S59202K-S59202P, S59209K-S59209P, S59211K-S59211P, S59212K-S59212P, S59219K-S59219P, S59221K-S59221P, S59222K-S59222P, S59229K-S59229P, S59231K-S59231P, S59232K-S59232P, S59239K-S59239P, S59241K-S59241P, S59242K-S59242P, S59249K-S59249P, S59291K-S59291P, S59292K-S59292P, S59299K-S59299P, S62001K-S62001P, S62002K-S62002P, S62009K-S62009P, S62011K-S62011P, S62012K-S62012P, S62013K-S62013P, S62014K-S62014P, S62015K-S62015P, S62016K-S62016P, S62021K-S62021P, S62022K-S62022P, S62023K-S62023P, S62024K-S62024P, S62025K-S62025P, S62026K-S62026P, S62031K-S62031P, S62032K-S62032P, S62033K-S62033P, S62034K-S62034P, S62035K-S62035P, S62036K-S62036P, S62101K-S62101P, S62102K-S62102P, S62109K-S62109P, S62111K-S62111P, S62112K-S62112P, S62113K-S62113P, S62114K-S62114P, S62115K-S62115P, S62116K-S62116P, S62121K-S62121P, S62122K-S62122P, S62123K-S62123P, S62124K-S62124P, S62125K-S62125P, S62126K-S62126P, S62131K-S62131P, S62132K-S62132P, S62133K-S62133P, S62134K-S62134P, S62135K-S62135P, S62136K-S62136P, S62141K-S62141P, S62142K-S62142P, S62143K-S62143P, S62144K-S62144P, S62145K-S62145P, S62146K-S62146P, S62151K-S62151P, S62152K-S62152P, S62153K-S62153P, S62154K-S62154P, S62155K-S62155P, S62156K-S62156P, S62161K-S62161P, S62162K-S62162P, S62163K-S62163P, S62164K-S62164P, S62165K-S62165P, S62166K-S62166P, S62171K-S62171P, S62172K-S62172P, S62173K-S62173P, S62174K-S62174P, S62175K-S62175P, S62176K-S62176P, S62181K-S62181P, S62182K-S62182P, S62183K-S62183P, S62184K-S62184P, S62185K-S62185P, S62186K-S62186P, S62201K-S62201P, S62202K-S62202P, S62209K-S62209P, S62211K-S62211P, S62212K-S62212P, S62213K-S62213P, S62221K-S62221P, S62222K-S62222P, S62223K-S62223P, S62224K-S62224P, S62225K-S62225P, S62226K-S62226P, S62231K-S62231P, S62232K-S62232P, S62233K-S62233P, S62234K-S62234P, S62235K-S62235P, S62236K-S62236P, S62241K-S62241P, S62242K-S62242P, S62243K-S62243P, S62244K-S62244P, S62245K-S62245P, S62246K-S62246P, S62251K-S62251P, S62252K-S62252P, S62253K-S62253P, S62254K-S62254P, S62255K-S62255P, S62256K-S62256P, S62291K-S62291P, S62292K-S62292P, S62299K-S62299P, S62300K-S62300P, S62301K-S62301P, S62302K-S62302P, S62303K-S62303P, S62304K-S62304P, S62305K-S62305P, S62306K-S62306P,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62307K-S62307P, S62308K-S62308P, S62309K-S62309P, S62310K-S62310P, S62311K-S62311P, S62312K-S62312P, S62313K-S62313P, S62314K-S62314P, S62315K-S62315P, S62316K-S62316P, S62317K-S62317P, S62318K-S62318P, S62319K-S62319P, S62320K-S62320P, S62321K-S62321P, S62322K-S62322P, S62323K-S62323P, S62324K-S62324P, S62325K-S62325P, S62326K-S62326P, S62327K-S62327P, S62328K-S62328P, S62329K-S62329P, S62330K-S62330P, S62331K-S62331P, S62332K-S62332P, S62333K-S62333P, S62334K-S62334P, S62335K-S62335P, S62336K-S62336P, S62337K-S62337P, S62338K-S62338P, S62339K-S62339P, S62340K-S62340P, S62341K-S62341P, S62342K-S62342P, S62343K-S62343P, S62344K-S62344P, S62345K-S62345P, S62346K-S62346P, S62347K-S62347P, S62348K-S62348P, S62349K-S62349P, S62350K-S62350P, S62351K-S62351P, S62352K-S62352P, S62353K-S62353P, S62354K-S62354P, S62355K-S62355P, S62356K-S62356P, S62357K-S62357P, S62358K-S62358P, S62359K-S62359P, S62360K-S62360P, S62361K-S62361P, S62362K-S62362P, S62363K-S62363P, S62364K-S62364P, S62365K-S62365P, S62366K-S62366P, S62367K-S62367P, S62368K-S62368P, S62369K-S62369P, S62390K-S62390P, S62391K-S62391P, S62392K-S62392P, S62393K-S62393P, S62394K-S62394P, S62395K-S62395P, S62396K-S62396P, S62397K-S62397P, S62398K-S62398P, S62399K-S62399P, S62501K-S62501P, S62502K-S62502P, S62509K-S62509P, S62511K-S62511P, S62512K-S62512P, S62513K-S62513P, S62514K-S62514P, S62515K-S62515P, S62516K-S62516P, S62521K-S62521P, S62522K-S62522P, S62523K-S62523P, S62524K-S62524P, S62525K-S62525P, S62526K-S62526P, S62600K-S62600P, S62601K-S62601P, S62602K-S62602P, S62603K-S62603P, S62604K-S62604P, S62605K-S62605P, S62606K-S62606P, S62607K-S62607P, S62608K-S62608P, S62609K-S62609P, S62610K-S62610P, S62611K-S62611P, S62612K-S62612P, S62613K-S62613P, S62614K-S62614P, S62615K-S62615P, S62616K-S62616P, S62617K-S62617P, S62618K-S62618P, S62619K-S62619P, S62620K-S62620P, S62621K-S62621P, S62622K-S62622P, S62623K-S62623P, S62624K-S62624P, S62625K-S62625P, S62626K-S62626P, S62627K-S62627P, S62628K-S62628P, S62629K-S62629P, S62630K-S62630P, S62631K-S62631P, S62632K-S62632P, S62633K-S62633P, S62634K-S62634P, S62635K-S62635P, S62636K-S62636P, S62637K-S62637P, S62638K-S62638P, S62639K-S62639P, S62640K-S62640P, S62641K-S62641P, S62642K-S62642P, S62643K-S62643P, S62644K-S62644P, S62645K-S62645P, S62646K-S62646P, S62647K-S62647P, S62648K-S62648P, S62649K-S62649P, S62650K-S62650P, S62651K-S62651P, S62652K-S62652P, S62653K-S62653P, S62654K-S62654P, S62655K-S62655P, S62656K-S62656P, S62657K-S62657P, S62658K-S62658P, S62659K-S62659P, S62660K-S62660P, S62661K-S62661P,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62662K-S62662P, S62663K-S62663P, S62664K-S62664P, S62665K-S62665P, S62666K-S62666P, S62667K-S62667P, S62668K-S62668P, S62669K-S62669P, S6290XK-S6290XP, S6291XK-S6291XP, S6292XK-S6292XP, S72001K-S72001R, S72002K-S72002R, S72009K-S72009R, S72011K-S72011R, S72012K-S72012R, S72019K-S72019R, S72021K-S72021R, S72022K-S72022R, S72023K-S72023R, S72024K-S72024R, S72025K-S72025R, S72026K-S72026R, S72031K-S72031R, S72032K-S72032R, S72033K-S72033R, S72034K-S72034R, S72035K-S72035R, S72036K-S72036R, S72041K-S72041R, S72042K-S72042R, S72043K-S72043R, S72044K-S72044R, S72045K-S72045R, S72046K-S72046R, S72051K-S72051R, S72052K-S72052R, S72059K-S72059R, S72061K-S72061R, S72062K-S72062R, S72063K-S72063R, S72064K-S72064R, S72065K-S72065R, S72066K-S72066R, S72091K-S72091R, S72092K-S72092R, S72099K-S72099R, S72101K-S72101R, S72102K-S72102R, S72109K-S72109R, <u>S72111K-S72111R, S72112K-S72112R, S72113K-S72113R, S72114K-S72114R, S72115K-S72115R, S72116K-S72116R, S72121K-S72121R, S72122K-S72122R, S72123K-S72123R, S72124K-S72124R, S72125K-S72125R, S72126K-S72126R, S72131K-S72131R, S72132K-S72132R, S72133K-S72133R, S72134K-S72134R, S72135K-S72135R, S72136K-S72136R, S72141K-S72141R, S72142K-S72142R, S72143K-S72143R, S72144K-S72144R, S72145K-S72145R, S72146K-S72146R, S7221XK-S7221XR, S7222XK-S7222XR, S7223XK-S7223XR, S7224XK-S7224XR, S7225XK-S7225XR, S7226XK-S7226XR, S72301K-S72301R, S72302K-S72302R, S72309K-S72309R, S72321K-S72321R, S72322K-S72322R, S72323K-S72323R, S72324K-S72324R, S72325K-S72325R, S72326K-S72326R, S72331K-S72331R, S72332K-S72332R, S72333K-S72333R, S72334K-S72334R, S72335K-S72335R, S72336K-S72336R, S72341K-S72341R, S72342K-S72342R, S72343K-S72343R, S72344K-S72344R, S72345K-S72345R, S72346K-S72346R, S72351K-S72351R, S72352K-S72352R, S72353K-S72353R, S72354K-S72354R, S72355K-S72355R, S72356K-S72356R, S72361K-S72361R, S72362K-S72362R, S72363K-S72363R, S72364K-S72364R, S72365K-S72365R, S72366K-S72366R, S72391K-S72391R, S72392K-S72392R, S72399K-S72399R, S72401K-S72401R, S72402K-S72402R, S72409K-S72409R, S72411K-S72411R, S72412K-S72412R, S72413K-S72413R, S72414K-S72414R, S72415K-S72415R, S72416K-S72416R, S72421K-S72421R, S72422K-S72422R, S72423K-S72423R, S72424K-S72424R, S72425K-S72425R, S72426K-S72426R, S72431K-S72431R, S72432K-S72432R, S72433K-S72433R, S72434K-S72434R, S72435K-S72435R, S72436K-S72436R, S72441K-S72441R, S72442K-S72442R, S72443K-S72443R, S72444K-S72444R, S72445K-S72445R, S72446K-S72446R, S72451K-S72451R, S72452K-S72452R, S72453K-S72453R, S72454K-S72454R, S72455K-S72455R, S72456K-S72456R, S72461K-S72461R,</u>

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S72462K-S72462R, S72463K-S72463R, S72464K-S72464R, S72465K-S72465R, S72466K-S72466R, S72471K-S72471P, S72472K-S72472P, S72479K-S72479P, S72491K-S72491R, S72492K-S72492R, S72499K-S72499R, S728X1K-S728X1R, S728X2K-S728X2R, S728X9K-S728X9R, S7290XK-S7290XR, S7291XK-S7291XR, S7292XK-S7292XR, S79001K-S79001P, S79002K-S79002P, S79009K-S79009P, S79011K-S79011P, S79012K-S79012P, S79019K-S79019P, S79091K-S79091P, S79092K-S79092P, S79099K-S79099P, S79101K-S79101P, S79102K-S79102P, S79109K-S79109P, S79111K-S79111P, S79112K-S79112P, S79119K-S79119P, S79121K-S79121P, S79122K-S79122P, S79129K-S79129P, S79131K-S79131P, S79132K-S79132P, S79139K-S79139P, S79141K-S79141P, S79142K-S79142P, S79149K-S79149P, S79191K-S79191P, S79192K-S79192P, S79199K-S79199P, S82001K-S82001R, S82002K-S82002R, S82009K-S82009R, S82011K-S82011R, S82012K-S82012R, S82013K-S82013R, S82014K-S82014R, S82015K-S82015R, S82016K-S82016R, S82021K-S82021R, S82022K-S82022R, S82023K-S82023R, S82024K-S82024R, S82025K-S82025R, S82026K-S82026R, S82031K-S82031R, S82032K-S82032R, S82033K-S82033R, S82034K-S82034R, S82035K-S82035R, S82036K-S82036R, S82041K-S82041R, S82042K-S82042R, S82043K-S82043R, S82044K-S82044R, S82045K-S82045R, S82046K-S82046R, S82091K-S82091R, S82092K-S82092R, S82099K-S82099R, S82101K-S82101R, S82102K-S82102R, S82109K-S82109R, S82111K-S82111R, S82112K-S82112R, S82113K-S82113R, S82114K-S82114R, S82115K-S82115R, S82116K-S82116R, S82121K-S82121R, S82122K-S82122R, S82123K-S82123R, S82124K-S82124R, S82125K-S82125R, S82126K-S82126R, S82131K-S82131R, S82132K-S82132R, S82133K-S82133R, S82134K-S82134R, S82135K-S82135R, S82136K-S82136R, S82141K-S82141R, S82142K-S82142R, S82143K-S82143R, S82144K-S82144R, S82145K-S82145R, S82146K-S82146R, S82151K-S82151R, S82152K-S82152R, S82153K-S82153R, S82154K-S82154R, S82155K-S82155R, S82156K-S82156R, S82161K-S82161P, S82162K-S82162P, S82169K-S82169P, S82191K-S82191R, S82192K-S82192R, S82199K-S82199R, S82201K-S82201R, S82202K-S82202R, S82209K-S82209R, S82221K-S82221R, S82222K-S82222R, S82223K-S82223R, S82224K-S82224R, S82225K-S82225R, S82226K-S82226R, S82231K-S82231R, S82232K-S82232R, S82233K-S82233R, S82234K-S82234R, S82235K-S82235R, S82236K-S82236R, S82241K-S82241R, S82242K-S82242R, S82243K-S82243R, S82244K-S82244R, S82245K-S82245R, S82246K-S82246R, S82251K-S82251R, S82252K-S82252R, S82253K-S82253R, S82254K-S82254R, S82255K-S82255R, S82256K-S82256R, S82261K-S82261R, S82262K-S82262R, S82263K-S82263R, S82264K-S82264R, S82265K-S82265R, S82266K-S82266R, S82291K-S82291R, S82292K-S82292R, S82299K-S82299R, S82301K-S82301R,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S82302K-S82302R, S82309K-S82309R, S82311K-S82311P, S82312K-S82312P, S82319K-S82319P, S82391K-S82391R, S82392K-S82392R, S82399K-S82399R, S82401K-S82401R, S82402K-S82402R, S82409K-S82409R, S82421K-S82421R, S82422K-S82422R, S82423K-S82423R, S82424K-S82424R, S82425K-S82425R, S82426K-S82426R, S82431K-S82431R, S82432K-S82432R, S82433K-S82433R, S82434K-S82434R, S82435K-S82435R, S82436K-S82436R, S82441K-S82441R, S82442K-S82442R, S82443K-S82443R, S82444K-S82444R, S82445K-S82445R, S82446K-S82446R, S82451K-S82451R, S82452K-S82452R, S82453K-S82453R, S82454K-S82454R, S82455K-S82455R, S82456K-S82456R, S82461K-S82461R, S82462K-S82462R, S82463K-S82463R, S82464K-S82464R, S82465K-S82465R, S82466K-S82466R, S82491K-S82491R, S82492K-S82492R, S82499K-S82499R, S8251XK-S8251XR, S8252XK-S8252XR, S8253XK-S8253XR, S8254XK-S8254XR, S8255XK-S8255XR, S8256XK-S8256XR, S8261XK-S8261XR, S8262XK-S8262XR, S8263XK-S8263XR, S8264XK-S8264XR, S8265XK-S8265XR, S8266XK-S8266XR, S82811K-S82811P, S82812K-S82812P, S82819K-S82819P, S82821K-S82821P, S82822K-S82822P, S82829K-S82829P, S82831K-S82831R, S82832K-S82832R, S82839K-S82839R, S82841K-S82841R, S82842K-S82842R, S82843K-S82843R, S82844K-S82844R, S82845K-S82845R, S82846K-S82846R, S82851K-S82851R, S82852K-S82852R, S82853K-S82853R, S82854K-S82854R, S82855K-S82855R, S82856K-S82856R, S82861K-S82861R, S82862K-S82862R, S82863K-S82863R, S82864K-S82864R, S82865K-S82865R, S82866K-S82866R, S82871K-S82871R, S82872K-S82872R, S82873K-S82873R, S82874K-S82874R, S82875K-S82875R, S82876K-S82876R, S82891K-S82891R, S82892K-S82892R, S82899K-S82899R, S8290XK-S8290XR, S8291XK-S8291XR, S8292XK-S8292XR, S89001K-S89001P, S89002K-S89002P, S89009K-S89009P, S89011K-S89011P, S89012K-S89012P, S89019K-S89019P, S89021K-S89021P, S89022K-S89022P, S89029K-S89029P, S89031K-S89031P, S89032K-S89032P, S89039K-S89039P, S89041K-S89041P, S89042K-S89042P, S89049K-S89049P, S89091K-S89091P, S89092K-S89092P, S89099K-S89099P, S89101K-S89101P, S89102K-S89102P, S89109K-S89109P, S89111K-S89111P, S89112K-S89112P, S89119K-S89119P, S89121K-S89121P, S89122K-S89122P, S89129K-S89129P, S89131K-S89131P, S89132K-S89132P, S89139K-S89139P, S89141K-S89141P, S89142K-S89142P, S89149K-S89149P, S89191K-S89191P, S89192K-S89192P, S89199K-S89199P, S89201K-S89201P, S89202K-S89202P, S89209K-S89209P, S89211K-S89211P, S89212K-S89212P, S89219K-S89219P, S89221K-S89221P, S89222K-S89222P, S89229K-S89229P, S89291K-S89291P, S89292K-S89292P, S89299K-S89299P, S89301K-S89301P, S89302K-S89302P, S89309K-S89309P, S89311K-S89311P, S89312K-S89312P, S89319K-S89319P, S89321K-S89321P,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S89322K-S89322P, S89329K-S89329P, S89391K-S89391P, S89392K-S89392P, S89399K-S89399P, S92001K-S92001P, S92002K-S92002P, S92009K-S92009P, S92011K-S92011P, S92012K-S92012P, S92013K-S92013P, S92014K-S92014P, S92015K-S92015P, S92016K-S92016P, S92021K-S92021P, S92022K-S92022P, S92023K-S92023P, S92024K-S92024P, S92025K-S92025P, S92026K-S92026P, S92031K-S92031P, S92032K-S92032P, S92033K-S92033P, S92034K-S92034P, S92035K-S92035P, S92036K-S92036P, S92041K-S92041P, S92042K-S92042P, S92043K-S92043P, S92044K-S92044P, S92045K-S92045P, S92046K-S92046P, S92051K-S92051P, S92052K-S92052P, S92053K-S92053P, S92054K-S92054P, S92055K-S92055P, S92056K-S92056P, S92061K-S92061P, S92062K-S92062P, S92063K-S92063P, S92064K-S92064P, S92065K-S92065P, S92066K-S92066P, S92101K-S92101P, S92102K-S92102P, S92109K-S92109P, S92111K-S92111P, S92112K-S92112P, S92113K-S92113P, S92114K-S92114P, S92115K-S92115P, S92116K-S92116P, S92121K-S92121P, S92122K-S92122P, S92123K-S92123P, S92124K-S92124P, S92125K-S92125P, S92126K-S92126P, S92131K-S92131P, S92132K-S92132P, S92133K-S92133P, S92134K-S92134P, S92135K-S92135P, S92136K-S92136P, S92141K-S92141P, S92142K-S92142P, S92143K-S92143P, S92144K-S92144P, S92145K-S92145P, S92146K-S92146P, S92151K-S92151P, S92152K-S92152P, S92153K-S92153P, S92154K-S92154P, S92155K-S92155P, S92156K-S92156P, S92191K-S92191P, S92192K-S92192P, S92199K-S92199P, S92201K-S92201P, S92202K-S92202P, S92209K-S92209P, S92211K-S92211P, S92212K-S92212P, S92213K-S92213P, S92214K-S92214P, S92215K-S92215P, S92216K-S92216P, S92221K-S92221P, S92222K-S92222P, S92223K-S92223P, S92224K-S92224P, S92225K-S92225P, S92226K-S92226P, S92231K-S92231P, S92232K-S92232P, S92233K-S92233P, S92234K-S92234P, S92235K-S92235P, S92236K-S92236P, S92241K-S92241P, S92242K-S92242P, S92243K-S92243P, S92244K-S92244P, S92245K-S92245P, S92246K-S92246P, S92251K-S92251P, S92252K-S92252P, S92253K-S92253P, S92254K-S92254P, S92255K-S92255P, S92256K-S92256P, S92301K-S92301P, S92302K-S92302P, S92309K-S92309P, S92311K-S92311P, S92312K-S92312P, S92313K-S92313P, S92314K-S92314P, S92315K-S92315P, S92316K-S92316P, S92321K-S92321P, S92322K-S92322P, S92323K-S92323P, S92324K-S92324P, S92325K-S92325P, S92326K-S92326P, S92331K-S92331P, S92332K-S92332P, S92333K-S92333P, S92334K-S92334P, S92335K-S92335P, S92336K-S92336P, S92341K-S92341P, S92342K-S92342P, S92343K-S92343P, S92344K-S92344P, S92345K-S92345P, S92346K-S92346P, S92351K-S92351P, S92352K-S92352P, S92353K-S92353P, S92354K-S92354P, S92355K-S92355P, S92356K-S92356P, S92401K-S92401P, S92402K-S92402P, S92403K-S92403P, S92404K-S92404P,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
53.	Other conditions not related to hypertension (OTHC_HPER)	OTHC except 274, 327, 346, 443, 440-442, 784-785	OTHC except 274, 327, 346, 443, 440-442, 784-785	S92405K-S92405P, S92406K-S92406P, S92411K-S92411P, S92412K-S92412P, S92413K-S92413P, S92414K-S92414P, S92415K-S92415P, S92416K-S92416P, S92421K-S92421P, S92422K-S92422P, S92423K-S92423P, S92424K-S92424P, S92425K-S92425P, S92426K-S92426P, S92491K-S92491P, S92492K-S92492P, S92499K-S92499P, S92501K-S92501P, S92502K-S92502P, S92503K-S92503P, S92504K-S92504P, S92505K-S92505P, S92506K-S92506P, S92511K-S92511P, S92512K-S92512P, S92513K-S92513P, S92514K-S92514P, S92515K-S92515P, S92516K-S92516P, S92521K-S92521P, S92522K-S92522P, S92523K-S92523P, S92524K-S92524P, S92525K-S92525P, S92526K-S92526P, S92531K-S92531P, S92532K-S92532P, S92533K-S92533P, S92534K-S92534P, S92535K-S92535P, S92536K-S92536P, S92591K-S92591P, S92592K-S92592P, S92599K-S92599P, S92811K-S92811P, S92812K-S92812P, S92819K-S92819P, S92901K-S92901P, S92902K-S92902P, S92909K-S92909P, S92911K-S92911P, S92912K-S92912P, S92919K-S92919P, S99001K-S99001P, S99002K-S99002P, S99009K-S99009P, S99011K-S99011P, S99012K-S99012P, S99019K-S99019P, S99021K-S99021P, S99022K-S99022P, S99029K-S99029P, S99031K-S99031P, S99032K-S99032P, S99039K-S99039P, S99041K-S99041P, S99042K-S99042P, S99049K-S99049P, S99091K-S99091P, S99092K-S99092P, S99099K-S99099P, S99101K-S99101P, S99102K-S99102P, S99109K-S99109P, S99111K-S99111P, S99112K-S99112P, S99119K-S99119P, S99121K-S99121P, S99122K-S99122P, S99129K-S99129P, S99131K-S99131P, S99132K-S99132P, S99139K-S99139P, S99141K-S99141P, S99142K-S99142P, S99149K-S99149P, S99191K-S99191P, S99192K-S99192P, S99199K-S99199P, S99201K-S99201P, S99202K-S99202P, S99209K-S99209P, S99211K-S99211P, S99212K-S99212P, S99219K-S99219P, S99221K-S99221P, S99222K-S99222P, S99229K-S99229P, S99231K-S99231P, S99232K-S99232P, S99239K-S99239P, S99241K-S99241P, S99242K-S99242P, S99249K-S99249P, S99291K-S99291P, S99292K-S99292P, S99299K-S99299P, T800XXA, T801XXA, T80211A, T80212A, T80218A, T80219A, T8022XA, T8029XA, T8030XA, T80310A, T80311A, T80319A, T8039XA, T8040XA, T80410A, T80411A, T80419A, T8049XA, T8051XA, T8052XA, T8059XA, T8061XA, T8062XA, T8069XA, T80810A, T80818A, T8089XA, T8090XA, T80910A, T80911A, T80919A, T8092XA, T80A0XA, T80A10A, T80A11A, T80A19A, T80A9XA, T8181XA, T83711A, T83721A, T880XXA, T881XXA, T884XXA, T887XXA, T888XXA, T889XXA, E712, E71310-E7519, E7523 E7525-E7529, E754, E7601-E769, E771, E7871-E7872, E790-E8319, E8330-E8809, E883-E896, F3281, F5104-F5105, F5113, F518, F54, F70-F82, F842, A001-A329, A35-A480, A482-A519, A5210-B199, B250-B780, B787-B999, C880, C965-C966, D100-D219, D241-D369, D472, D474, D481, D500-D77, D800-E099, E103521-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				E103549, E1041, E1043-E1049, E10610, E10630, E113521-E113549, E1141, E1143-E1149, E11610, E11630, E1300-E35, E40-E649, E700-E712, E71310-E7519, E7523, E7525 E754, E7601-E769, E771, E7871-E7872, E790-E8319, E8330-E8809, E883-E896, F3281, F518, F54, F70-F82, F842, F88-F89, G000-G131, G14-G26, G3181-G3182, G319-G40B19, G44001-G44099, G44201-G4489, G453, G4700, G4710, G4720, G4730, G47411-G47429, G478-G909, G911, G913, G918-G936, G9381-G939, G950-G969, G971, G9741, G9782-H579, H5940-H5943, H6000-H95199, I280-I339, I39-I41, I6000-I629, I673, I6783, I7401-I776, I77810-I789, I8000-I8393, I87001-I959, I972, I998-J1189, J129, J17, J181-J182, J200-J40, J60-J668, J680-J953, J95811-J95822, J9584, J9600-K67, K6812-K912, K915, K91850-K91858, K9189-K9589, L081, L444, L600-L660, L662-L663, L668-L689, L7211-L7212, L731, L738-L739, L946, M0000-M049, M0540-M0559, M0760-M0769, M1100-M119, M1220-M1249, M1280, M1460-M1489, M20001-M25776, M2580-M352, M354-M4319, M433-M435X9, M438X1-M439, M4620-M4639, M4840XA, M4841XA, M4842XA, M4843XA, M4844XA, M4845XA, M4846XA, M4847XA, M4848XA, M4850XA, M4851XA, M4852XA, M4853XA, M4854XA, M4855XA, M4856XA, M4857XA, M4858XA, M532X1-M532X6 M532X9, M5410, M5418, M60000-M6282, M62831-M8000XP, M80011A-M80011P, M80012A-M80012P, M80019A-M80019P, M80021A-M80021P, M80022A-M80022P, M80029A-M80029P, M80031A-M80031P, M80032A-M80032P, M80039A-M80039P, M80041A-M80041P, M80042A-M80042P, M80049A-M80049P, M80051A-M80051P, M80052A-M80052P, M80059A-M80059P, M80061A-M80061P, M80062A-M80062P, M80069A-M80069P, M80071A-M80071P, M80072A-M80072P, M80079A-M80079P, M8008XA-M8008XP, M8080XA-M8080XP, M80811A-M80811P, M80812A-M80812P, M80819A-M80819P, M80821A-M80821P, M80822A-M80822P, M80829A-M80829P, M80831A-M80831P, M80832A-M80832P, M80839A-M80839P, M80841A-M80841P, M80842A-M80842P, M80849A-M80849P, M80851A-M80851P, M80852A-M80852P, M80859A-M80859P, M80861A-M80861P, M80862A-M80862P, M80869A-M80869P, M80871A-M80871P, M80872A-M80872P, M80879A-M80879P, M8088XA-M8088XP, M810-M8430XP, M84311A-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				M84311P, M84312A-M84312P, M84319A-M84319P, M84321A-M84321P, M84322A-M84322P, M84329A-M84329P, M84331A-M84331P, M84332A-M84332P, M84333A-M84333P, M84334A-M84334P, M84339A-M84339P, M84341A-M84341P, M84342A-M84342P, M84343A-M84343P, M84344A-M84344P, M84345A-M84345P, M84346A-M84346P, M84350A-M84350P, M84351A-M84351P, M84352A-M84352P, M84353A-M84353P, M84359A-M84359P, M84361A-M84361P, M84362A-M84362P, M84363A-M84363P, M84364A-M84364P, M84369A-M84369P, M84371A-M84371P, M84372A-M84372P, M84373A-M84373P, M84374A-M84374P, M84375A-M84375P, M84376A-M84376P, M84377A-M84377P, M84378A-M84378P, M84379A-M84379P, M8438XA-M8438XP, M8440XA-M8440XP, M84411A-M84411P, M84412A-M84412P, M84419A-M84419P, M84421A-M84421P, M84422A-M84422P, M84429A-M84429P, M84431A-M84431P, M84432A-M84432P, M84433A-M84433P, M84434A-M84434P, M84439A-M84439P, M84441A-M84441P, M84442A-M84442P, M84443A-M84443P, M84444A-M84444P, M84445A-M84445P, M84446A-M84446P, M84451A-M84451P, M84452A-M84452P, M84453A-M84453P, M84454A-M84454P, M84459A-M84459P, M84461A-M84461P, M84462A-M84462P, M84463A-M84463P, M84464A-M84464P, M84469A-M84469P, M84471A-M84471P, M84472A-M84472P, M84473A-M84473P, M84474A-M84474P, M84475A-M84475P, M84476A-M84476P, M84477A-M84477P, M84478A-M84478P, M84479A-M84479P, M8448XA-M8448XP, M8450XA-M8450XP, M84511A-M84511P, M84512A-M84512P, M84519A-M84519P, M84521A-M84521P, M84522A-M84522P, M84529A-M84529P, M84531A-M84531P, M84532A-M84532P, M84533A-M84533P, M84534A-M84534P, M84539A-M84539P, M84541A-M84541P, M84542A-M84542P, M84549A-M84549P, M84550A-M84550P, M84551A-M84551P, M84552A-M84552P, M84553A-M84553P, M84559A-M84559P, M84561A-M84561P, M84562A-M84562P, M84563A-M84563P, M84564A-M84564P, M84569A-M84569P, M84571A-M84571P, M84572A-M84572P, M84573A-M84573P, M84574A-M84574P, M84575A-M84575P, M84576A-M84576P, M8458XA-M8458XP, M8460XA-M8460XP, M84611A-M84611P, M84612A-M84612P, M84619A-M84619P, M84621A-M84621P, M84622A-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				M84622P, M84629A-M84629P, M84631A-M84631P, M84632A-M84632P, M84633A-M84633P, M84634A-M84634P, M84639A-M84639P, M84641A-M84641P, M84642A-M84642P, M84649A-M84649P, M84650A-M84650P, M84651A-M84651P, M84652A-M84652P, M84653A-M84653P, M84659A-M84659P, M84661A-M84661P, M84662A-M84662P, M84663A-M84663P, M84664A-M84664P, M84669A-M84669P, M84671A-M84671P, M84672A-M84672P, M84673A-M84673P, M84674A-M84674P, M84675A-M84675P, M84676A-M84676P, M8468XA-M8468XP, M84750A-M84750P, M84751A-M84751P, M84752A-M84752P, M84753A-M84753P, M84754A-M84754P, M84755A-M84755P, M84756A-M84756P, M84757A-M84757P, M84758A-M84758P, M84759A-M84759P, M8480-M959, M962-M965, M9900-M9909, M9980-N16, N171-N172, N200-N23, N270-N981, N99110-N99518, N9983, NODX, O280-O289, P09, P293-P2938, Q000-Q189, Q250-Q849, Q851-Q859, Q870-Q999, R030-R031, R042-R064, R066, R0681-R069, R071-R0981, R0989-R162, R180-R195, R197-R198, R222, R250-R369, R390-R450, R453-R454, R4583-R4689, R480, R483, R502-R509, R52-R56 R58, R61-R64, R680-R6883, R6889-R899, R9081-R99, S020XXK, S02101K, S02102K, S02109K, S0210XK, S02110K, S02111K, S02112K, S02113K, S02118K, S02119K, S0211AK, S0211BK, S0211CK, S0211DK, S0211EK, S0211FK, S0211GK, S0211HK, S0219XK, S022XXK, S0230XK, S0231XK, S0232XK, S023XXK, S02400K, S02401K, S02402K, S0240AK, S0240BK, S0240CK, S0240DK, S0240EK, S0240FK, S02411K, S02412K, S02413K, S0242XK, S025XXK, S02600K, S02601K, S02602K, S02609K, S02610K, S02611K, S02612K, S0261XK, S02620K, S02621K, S02622K, S0262XK, S02630K, S02631K, S02632K, S0263XK, S02640K, S02641K, S02642K, S0264XK, S02650K, S02651K, S02652K, S0265XK, S0266XK, S02670K, S02671K, S02672K, S0267XK, S0269XK, S0280XK, S0281XK, S0282XK, S028XXK, S0291XK, S0292XK, S061X0A, S061X1A, S061X2A, S061X3A, S061X4A, S061X5A, S061X6A, S061X7A, S061X8A, S061X9A, S12000K, S12001K, S1201XK, S1202XK, S12030K, S12031K, S12040K, S12041K, S12090K, S12091K, S12100K, S12101K, S12110K, S12111K, S12112K, S12120K, S12121K, S12130K, S12131K, S1214XK, S12150K, S12151K, S12190K,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S12191K, S12200K, S12201K, S12230K, S12231K, S1224XK, S12250K, S12251K, S12290K, S12291K, S12300K, S12301K, S12330K, S12331K, S1234XK, S12350K, S12351K, S12390K, S12391K, S12400K, S12401K, S12430K, S12431K, S1244XK, S12450K, S12451K, S12490K, S12491K, S12500K, S12501K, S12530K, S12531K, S1254XK, S12550K, S12551K, S12590K, S12591K, S12600K, S12601K, S12630K, S12631K, S1264XK, S12650K, S12651K, S12690K, S12691K, S22000K, S22001K, S22002K, S22008K, S22009K, S22010K, S22011K, S22012K, S22018K, S22019K, S22020K, S22021K, S22022K, S22028K, S22029K, S22030K, S22031K, S22032K, S22038K, S22039K, S22040K, S22041K, S22042K, S22048K, S22049K, S22050K, S22051K, S22052K, S22058K, S22059K, S22060K, S22061K, S22062K, S22068K, S22069K, S22070K, S22071K, S22072K, S22078K, S22079K, S22080K, S22081K, S22082K, S22088K, S22089K, S2220XK, S2221XK, S2222XK, S2223XK, S2224XK, S2231XK, S2232XK, S2239XK, S2241XK, S2242XK, S2243XK, S2249XK, S225XXK, S229XXK, S32000K, S32001K, S32002K, S32008K, S32009K, S32010K, S32011K, S32012K, S32018K, S32019K, S32020K, S32021K, S32022K, S32028K, S32029K, S32030K, S32031K, S32032K, S32038K, S32039K, S32040K, S32041K, S32042K, S32048K, S32049K, S32050K, S32051K, S32052K, S32058K, S32059K, S3210XK, S32110K, S32111K, S32112K, S32119K, S32120K, S32121K, S32122K, S32129K, S32130K, S32131K, S32132K, S32139K, S3214XK, S3215XK, S3216XK, S3217XK, S3219XK, S322XXK, S32301K, S32302K, S32309K, S32311K, S32312K, S32313K, S32314K, S32315K, S32316K, S32391K, S32392K, S32399K, S32401K, S32402K, S32409K, S32411K, S32412K, S32413K, S32414K, S32415K, S32416K, S32421K, S32422K, S32423K, S32424K, S32425K, S32426K, S32431K, S32432K, S32433K, S32434K, S32435K, S32436K, S32441K, S32442K, S32443K, S32444K, S32445K, S32446K, S32451K, S32452K, S32453K, S32454K, S32455K, S32456K, S32461K, S32462K, S32463K, S32464K, S32465K, S32466K, S32471K, S32472K, S32473K, S32474K, S32475K, S32476K, S32481K, S32482K, S32483K, S32484K, S32485K, S32486K, S32491K, S32492K, S32499K, S32501K, S32502K, S32509K, S32511K,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S32512K, S32519K, S32591K, S32592K, S32599K, S32601K, S32602K, S32609K, S32611K, S32612K, S32613K, S32614K, S32615K, S32616K, S32691K, S32692K, S32699K, S32810K, S32811K, S3282XK, S3289XK, S329XXK, S42001K-S42001P, S42002K-S42002P, S42009K-S42009P, S42011K-S42011P, S42012K-S42012P, S42013K-S42013P, S42014K-S42014P, S42015K-S42015P, S42016K-S42016P, S42017K-S42017P, S42018K-S42018P, S42019K-S42019P, S42021K-S42021P, S42022K-S42022P, S42023K-S42023P, S42024K-S42024P, S42025K-S42025P, S42026K-S42026P, S42031K-S42031P, S42032K-S42032P, S42033K-S42033P, S42034K-S42034P, S42035K-S42035P, S42036K-S42036P, S42101K-S42101P, S42102K-S42102P, S42109K-S42109P, S42111K-S42111P, S42112K-S42112P, S42113K-S42113P, S42114K-S42114P, S42115K-S42115P, S42116K-S42116P, S42121K-S42121P, S42122K-S42122P, S42123K-S42123P, S42124K-S42124P, S42125K-S42125P, S42126K-S42126P, S42131K-S42131P, S42132K-S42132P, S42133K-S42133P, S42134K-S42134P, S42135K-S42135P, S42136K-S42136P, S42141K-S42141P, S42142K-S42142P, S42143K-S42143P, S42144K-S42144P, S42145K-S42145P, S42146K-S42146P, S42151K-S42151P, S42152K-S42152P, S42153K-S42153P, S42154K-S42154P, S42155K-S42155P, S42156K-S42156P, S42191K-S42191P, S42192K-S42192P, S42199K-S42199P, S42201K-S42201P, S42202K-S42202P, S42209K-S42209P, S42211K-S42211P, S42212K-S42212P, S42213K-S42213P, S42214K-S42214P, S42215K-S42215P, S42216K-S42216P, S42221K-S42221P, S42222K-S42222P, S42223K-S42223P, S42224K-S42224P, S42225K-S42225P, S42226K-S42226P, S42231K-S42231P, S42232K-S42232P, S42239K-S42239P, S42241K-S42241P, S42242K-S42242P, S42249K-S42249P, S42251K-S42251P, S42252K-S42252P, S42253K-S42253P, S42254K-S42254P, S42255K-S42255P, S42256K-S42256P, S42261K-S42261P, S42262K-S42262P, S42263K-S42263P, S42264K-S42264P, S42265K-S42265P, S42266K-S42266P, S42271K-S42271P, S42272K-S42272P, S42279K-S42279P, S42291K-S42291P, S42292K-S42292P, S42293K-S42293P, S42294K-S42294P, S42295K-S42295P,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S42296K-S42296P, S42301K-S42301P, S42302K-S42302P, S42309K-S42309P, S42311K-S42311P, S42312K-S42312P, S42319K-S42319P, S42321K-S42321P, S42322K-S42322P, S42323K-S42323P, S42324K-S42324P, S42325K-S42325P, S42326K-S42326P, S42331K-S42331P, S42332K-S42332P, S42333K-S42333P, S42334K-S42334P, S42335K-S42335P, S42336K-S42336P, S42341K-S42341P, S42342K-S42342P, S42343K-S42343P, S42344K-S42344P, S42345K-S42345P, S42346K-S42346P, S42351K-S42351P, S42352K-S42352P, S42353K-S42353P, S42354K-S42354P, S42355K-S42355P, S42356K-S42356P, S42361K-S42361P, S42362K-S42362P, S42363K-S42363P, S42364K-S42364P, S42365K-S42365P, S42366K-S42366P, S42391K-S42391P, S42392K-S42392P, S42399K-S42399P, S42401K-S42401P, S42402K-S42402P, S42409K-S42409P, S42411K-S42411P, S42412K-S42412P, S42413K-S42413P, S42414K-S42414P, S42415K-S42415P, S42416K-S42416P, S42421K-S42421P, S42422K-S42422P, S42423K-S42423P, S42424K-S42424P, S42425K-S42425P, S42426K-S42426P, S42431K-S42431P, S42432K-S42432P, S42433K-S42433P, S42434K-S42434P, S42435K-S42435P, S42436K-S42436P, S42441K-S42441P, S42442K-S42442P, S42443K-S42443P, S42444K-S42444P, S42445K-S42445P, S42446K-S42446P, S42447K-S42447P, S42448K-S42448P, S42449K-S42449P, S42451K-S42451P, S42452K-S42452P, S42453K-S42453P, S42454K-S42454P, S42455K-S42455P, S42456K-S42456P, S42461K-S42461P, S42462K-S42462P, S42463K-S42463P, S42464K-S42464P, S42465K-S42465P, S42466K-S42466P, S42471K-S42471P, S42472K-S42472P, S42473K-S42473P, S42474K-S42474P, S42475K-S42475P, S42476K-S42476P, S42481K-S42481P, S42482K-S42482P, S42489K-S42489P, S42491K-S42491P, S42492K-S42492P, S42493K-S42493P, S42494K-S42494P, S42495K-S42495P, S42496K-S42496P, S4290XK-S4290XP, S4291XK-S4291XP, S4292XK-S4292XP, S49001K-S49001P, S49002K-S49002P, S49009K-S49009P, S49011K-S49011P, S49012K-S49012P, S49019K-S49019P, S49021K-S49021P, S49022K-S49022P, S49029K-S49029P, S49031K-S49031P, S49032K-S49032P, S49039K-S49039P,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S49041K-S49041P, S49042K-S49042P, S49049K-S49049P, S49091K-S49091P, S49092K-S49092P, S49099K-S49099P, S49101K-S49101P, S49102K-S49102P, S49109K-S49109P, S49111K-S49111P, S49112K-S49112P, S49119K-S49119P, S49121K-S49121P, S49122K-S49122P, S49129K-S49129P, S49131K-S49131P, S49132K-S49132P, S49139K-S49139P, S49141K-S49141P, S49142K-S49142P, S49149K-S49149P, S49191K-S49191P, S49192K-S49192P, S49199K-S49199P, S52001K-S52001R, S52002K-S52002R, S52009K-S52009R, S52011K-S52011P, S52012K-S52012P, S52019K-S52019P, S52021K-S52021R, S52022K-S52022R, S52023K-S52023R, S52024K-S52024R, S52025K-S52025R, S52026K-S52026R, S52031K-S52031R, S52032K-S52032R, S52033K-S52033R, S52034K-S52034R, S52035K-S52035R, S52036K-S52036R, S52041K-S52041R, S52042K-S52042R, S52043K-S52043R, S52044K-S52044R, S52045K-S52045R, S52046K-S52046R, S52091K-S52091R, S52092K-S52092R, S52099K-S52099R, S52101K-S52101R, S52102K-S52102R, S52109K-S52109R, S52111K-S52111P, S52112K-S52112P, S52119K-S52119P, S52121K-S52121R, S52122K-S52122R, S52123K-S52123R, S52124K-S52124R, S52125K-S52125R, S52126K-S52126R, S52131K-S52131R, S52132K-S52132R, S52133K-S52133R, S52134K-S52134R, S52135K-S52135R, S52136K-S52136R, S52181K-S52181R, S52182K-S52182R, S52189K-S52189R, S52201K-S52201R, S52202K-S52202R, S52209K-S52209R, S52211K-S52211P, S52212K-S52212P, S52219K-S52219P, S52221K-S52221R, S52222K-S52222R, S52223K-S52223R, S52224K-S52224R, S52225K-S52225R, S52226K-S52226R, S52231K-S52231R, S52232K-S52232R, S52233K-S52233R, S52234K-S52234R, S52235K-S52235R, S52236K-S52236R, S52241K-S52241R, S52242K-S52242R, S52243K-S52243R, S52244K-S52244R, S52245K-S52245R, S52246K-S52246R, S52251K-S52251R, S52252K-S52252R, S52253K-S52253R, S52254K-S52254R, S52255K-S52255R, S52256K-S52256R, S52261K-S52261R, S52262K-S52262R, S52263K-S52263R, S52264K-S52264R, S52265K-S52265R, S52266K-S52266R, S52271K-S52271R, S52272K-S52272R, S52279K-S52279R, S52281K-S52281R,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S52282K-S52282R, S52283K-S52283R, S52291K-S52291R, S52292K-S52292R, S52299K-S52299R, S52301K-S52301R, S52302K-S52302R, S52309K-S52309R, S52311K-S52311P, S52312K-S52312P, S52319K-S52319P, S52321K-S52321R, S52322K-S52322R, S52323K-S52323R, S52324K-S52324R, S52325K-S52325R, S52326K-S52326R, S52331K-S52331R, S52332K-S52332R, S52333K-S52333R, S52334K-S52334R, S52335K-S52335R, S52336K-S52336R, S52341K-S52341R, S52342K-S52342R, S52343K-S52343R, S52344K-S52344R, S52345K-S52345R, S52346K-S52346R, S52351K-S52351R, S52352K-S52352R, S52353K-S52353R, S52354K-S52354R, S52355K-S52355R, S52356K-S52356R, S52361K-S52361R, S52362K-S52362R, S52363K-S52363R, S52364K-S52364R, S52365K-S52365R, S52366K-S52366R, S52371K-S52371R, S52372K-S52372R, S52379K-S52379R, S52381K-S52381R, S52382K-S52382R, S52389K-S52389R, S52391K-S52391R, S52392K-S52392R, S52399K-S52399R, S52501K-S52501R, S52502K-S52502R, S52509K-S52509R, S52511K-S52511R, S52512K-S52512R, S52513K-S52513R, S52514K-S52514R, S52515K-S52515R, S52516K-S52516R, S52521K-S52521P, S52522K-S52522P, S52529K-S52529P, S52531K-S52531R, S52532K-S52532R, S52539K-S52539R, S52541K-S52541R, S52542K-S52542R, S52549K-S52549R, S52551K-S52551R, S52552K-S52552R, S52559K-S52559R, S52561K-S52561R, S52562K-S52562R, S52569K-S52569R, S52571K-S52571R, S52572K-S52572R, S52579K-S52579R, S52591K-S52591R, S52592K-S52592R, S52599K-S52599R, S52601K-S52601R, S52602K-S52602R, S52609K-S52609R, S52611K-S52611R, S52612K-S52612R, S52613K-S52613R, S52614K-S52614R, S52615K-S52615R, S52616K-S52616R, S52621K-S52621P, S52622K-S52622P, S52629K-S52629P, S52691K-S52691R, S52692K-S52692R, S52699K-S52699R, S5290XK-S5290XR, S5291XK-S5291XR, S5292XK-S5292XR, S59001K-S59001P, S59002K-S59002P, S59009K-S59009P, S59011K-S59011P, S59012K-S59012P, S59019K-S59019P, S59021K-S59021P, S59022K-S59022P, S59029K-S59029P, S59031K-S59031P, S59032K-S59032P, S59039K-S59039P, S59041K-S59041P, S59042K-S59042P,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S59049K-S59049P, S59091K-S59091P, S59092K-S59092P, S59099K-S59099P, S59101K-S59101P, S59102K-S59102P, S59109K-S59109P, S59111K-S59111P, S59112K-S59112P, S59119K-S59119P, S59121K-S59121P, S59122K-S59122P, S59129K-S59129P, S59131K-S59131P, S59132K-S59132P, S59139K-S59139P, S59141K-S59141P, S59142K-S59142P, S59149K-S59149P, S59191K-S59191P, S59192K-S59192P, S59199K-S59199P, S59201K-S59201P, S59202K-S59202P, S59209K-S59209P, S59211K-S59211P, S59212K-S59212P, S59219K-S59219P, S59221K-S59221P, S59222K-S59222P, S59229K-S59229P, S59231K-S59231P, S59232K-S59232P, S59239K-S59239P, S59241K-S59241P, S59242K-S59242P, S59249K-S59249P, S59291K-S59291P, S59292K-S59292P, S59299K-S59299P, S62001K-S62001P, S62002K-S62002P, S62009K-S62009P, S62011K-S62011P, S62012K-S62012P, S62013K-S62013P, S62014K-S62014P, S62015K-S62015P, S62016K-S62016P, S62021K-S62021P, S62022K-S62022P, S62023K-S62023P, S62024K-S62024P, S62025K-S62025P, S62026K-S62026P, S62031K-S62031P, S62032K-S62032P, S62033K-S62033P, S62034K-S62034P, S62035K-S62035P, S62036K-S62036P, S62101K-S62101P, S62102K-S62102P, S62109K-S62109P, S62111K-S62111P, S62112K-S62112P, S62113K-S62113P, S62114K-S62114P, S62115K-S62115P, S62116K-S62116P, S62121K-S62121P, S62122K-S62122P, S62123K-S62123P, S62124K-S62124P, S62125K-S62125P, S62126K-S62126P, S62131K-S62131P, S62132K-S62132P, S62133K-S62133P, S62134K-S62134P, S62135K-S62135P, S62136K-S62136P, S62141K-S62141P, S62142K-S62142P, S62143K-S62143P, S62144K-S62144P, S62145K-S62145P, S62146K-S62146P, S62151K-S62151P, S62152K-S62152P, S62153K-S62153P, S62154K-S62154P, S62155K-S62155P, S62156K-S62156P, S62161K-S62161P, S62162K-S62162P, S62163K-S62163P, S62164K-S62164P, S62165K-S62165P, S62166K-S62166P, S62171K-S62171P, S62172K-S62172P, S62173K-S62173P, S62174K-S62174P, S62175K-S62175P, S62176K-S62176P, S62181K-S62181P, S62182K-S62182P, S62183K-S62183P, S62184K-S62184P, S62185K-S62185P, S62186K-S62186P,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62201K-S62201P, S62202K-S62202P, S62209K-S62209P, S62211K-S62211P, S62212K-S62212P, S62213K-S62213P, S62221K-S62221P, S62222K-S62222P, S62223K-S62223P, S62224K-S62224P, S62225K-S62225P, S62226K-S62226P, S62231K-S62231P, S62232K-S62232P, S62233K-S62233P, S62234K-S62234P, S62235K-S62235P, S62236K-S62236P, S62241K-S62241P, S62242K-S62242P, S62243K-S62243P, S62244K-S62244P, S62245K-S62245P, S62246K-S62246P, S62251K-S62251P, S62252K-S62252P, S62253K-S62253P, S62254K-S62254P, S62255K-S62255P, S62256K-S62256P, S62291K-S62291P, S62292K-S62292P, S62299K-S62299P, S62300K-S62300P, S62301K-S62301P, S62302K-S62302P, S62303K-S62303P, S62304K-S62304P, S62305K-S62305P, S62306K-S62306P, S62307K-S62307P, S62308K-S62308P, S62309K-S62309P, S62310K-S62310P, S62311K-S62311P, S62312K-S62312P, S62313K-S62313P, S62314K-S62314P, S62315K-S62315P, S62316K-S62316P, S62317K-S62317P, S62318K-S62318P, S62319K-S62319P, S62320K-S62320P, S62321K-S62321P, S62322K-S62322P, S62323K-S62323P, S62324K-S62324P, S62325K-S62325P, S62326K-S62326P, S62327K-S62327P, S62328K-S62328P, S62329K-S62329P, S62330K-S62330P, S62331K-S62331P, S62332K-S62332P, S62333K-S62333P, S62334K-S62334P, S62335K-S62335P, S62336K-S62336P, S62337K-S62337P, S62338K-S62338P, S62339K-S62339P, S62340K-S62340P, S62341K-S62341P, S62342K-S62342P, S62343K-S62343P, S62344K-S62344P, S62345K-S62345P, S62346K-S62346P, S62347K-S62347P, S62348K-S62348P, S62349K-S62349P, S62350K-S62350P, S62351K-S62351P, S62352K-S62352P, S62353K-S62353P, S62354K-S62354P, S62355K-S62355P, S62356K-S62356P, S62357K-S62357P, S62358K-S62358P, S62359K-S62359P, S62360K-S62360P, S62361K-S62361P, S62362K-S62362P, S62363K-S62363P, S62364K-S62364P, S62365K-S62365P, S62366K-S62366P, S62367K-S62367P, S62368K-S62368P, S62369K-S62369P, S62390K-S62390P, S62391K-S62391P, S62392K-S62392P, S62393K-S62393P, S62394K-S62394P, S62395K-S62395P, S62396K-S62396P, S62397K-S62397P, S62398K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62398P, S62399K-S62399P, S62501K-S62501P, S62502K-S62502P, S62509K-S62509P, S62511K-S62511P, S62512K-S62512P, S62513K-S62513P, S62514K-S62514P, S62515K-S62515P, S62516K-S62516P, S62521K-S62521P, S62522K-S62522P, S62523K-S62523P, S62524K-S62524P, S62525K-S62525P, S62526K-S62526P, S62600K-S62600P, S62601K-S62601P, S62602K-S62602P, S62603K-S62603P, S62604K-S62604P, S62605K-S62605P, S62606K-S62606P, S62607K-S62607P, S62608K-S62608P, S62609K-S62609P, S62610K-S62610P, S62611K-S62611P, S62612K-S62612P, S62613K-S62613P, S62614K-S62614P, S62615K-S62615P, S62616K-S62616P, S62617K-S62617P, S62618K-S62618P, S62619K-S62619P, S62620K-S62620P, S62621K-S62621P, S62622K-S62622P, S62623K-S62623P, S62624K-S62624P, S62625K-S62625P, S62626K-S62626P, S62627K-S62627P, S62628K-S62628P, S62629K-S62629P, S62630K-S62630P, S62631K-S62631P, S62632K-S62632P, S62633K-S62633P, S62634K-S62634P, S62635K-S62635P, S62636K-S62636P, S62637K-S62637P, S62638K-S62638P, S62639K-S62639P, S62640K-S62640P, S62641K-S62641P, S62642K-S62642P, S62643K-S62643P, S62644K-S62644P, S62645K-S62645P, S62646K-S62646P, S62647K-S62647P, S62648K-S62648P, S62649K-S62649P, S62650K-S62650P, S62651K-S62651P, S62652K-S62652P, S62653K-S62653P, S62654K-S62654P, S62655K-S62655P, S62656K-S62656P, S62657K-S62657P, S62658K-S62658P, S62659K-S62659P, S62660K-S62660P, S62661K-S62661P, S62662K-S62662P, S62663K-S62663P, S62664K-S62664P, S62665K-S62665P, S62666K-S62666P, S62667K-S62667P, S62668K-S62668P, S62669K-S62669P, S6290XK-S6290XP, S6291XK-S6291XP, S6292XK-S6292XP, S72001K-S72001R, S72002K-S72002R, S72009K-S72009R, S72011K-S72011R, S72012K-S72012R, S72019K-S72019R, S72021K-S72021R, S72022K-S72022R, S72023K-S72023R, S72024K-S72024R, S72025K-S72025R, S72026K-S72026R, S72031K-S72031R, S72032K-S72032R, S72033K-S72033R, S72034K-S72034R, S72035K-S72035R, S72036K-S72036R, S72041K-S72041R, S72042K-S72042R, S72043K-S72043R, S72044K-S72044R, S72045K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S72045R, S72046K-S72046R, S72051K-S72051R, S72052K-S72052R, S72059K-S72059R, S72061K-S72061R, S72062K-S72062R, S72063K-S72063R, S72064K-S72064R, S72065K-S72065R, S72066K-S72066R, S72091K-S72091R, S72092K-S72092R, S72099K-S72099R, S72101K-S72101R, S72102K-S72102R, S72109K-S72109R, S72111K-S72111R, S72112K-S72112R, S72113K-S72113R, S72114K-S72114R, S72115K-S72115R, S72116K-S72116R, S72121K-S72121R, S72122K-S72122R, S72123K-S72123R, S72124K-S72124R, S72125K-S72125R, S72126K-S72126R, S72131K-S72131R, S72132K-S72132R, S72133K-S72133R, S72134K-S72134R, S72135K-S72135R, S72136K-S72136R, S72141K-S72141R, S72142K-S72142R, S72143K-S72143R, S72144K-S72144R, S72145K-S72145R, S72146K-S72146R, S7221XK-S7221XR, S7222XK-S7222XR, S7223XK-S7223XR, S7224XK-S7224XR, S7225XK-S7225XR, S7226XK-S7226XR, S72301K-S72301R, S72302K-S72302R, S72309K-S72309R, S72321K-S72321R, S72322K-S72322R, S72323K-S72323R, S72324K-S72324R, S72325K-S72325R, S72326K-S72326R, S72331K-S72331R, S72332K-S72332R, S72333K-S72333R, S72334K-S72334R, S72335K-S72335R, S72336K-S72336R, S72341K-S72341R, S72342K-S72342R, S72343K-S72343R, S72344K-S72344R, S72345K-S72345R, S72346K-S72346R, S72351K-S72351R, S72352K-S72352R, S72353K-S72353R, S72354K-S72354R, S72355K-S72355R, S72356K-S72356R, S72361K-S72361R, S72362K-S72362R, S72363K-S72363R, S72364K-S72364R, S72365K-S72365R, S72366K-S72366R, S72391K-S72391R, S72392K-S72392R, S72399K-S72399R, S72401K-S72401R, S72402K-S72402R, S72409K-S72409R, S72411K-S72411R, S72412K-S72412R, S72413K-S72413R, S72414K-S72414R, S72415K-S72415R, S72416K-S72416R, S72421K-S72421R, S72422K-S72422R, S72423K-S72423R, S72424K-S72424R, S72425K-S72425R, S72426K-S72426R, S72431K-S72431R, S72432K-S72432R, S72433K-S72433R, S72434K-S72434R, S72435K-S72435R, S72436K-S72436R, S72441K-S72441R, S72442K-S72442R, S72443K-S72443R, S72444K-S72444R, S72445K-S72445R, S72446K-S72446R, S72451K-S72451R, S72452K-S72452R, S72453K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S72453R, S72454K-S72454R, S72455K-S72455R, S72456K-S72456R, S72461K-S72461R, S72462K-S72462R, S72463K-S72463R, S72464K-S72464R, S72465K-S72465R, S72466K-S72466R, S72471K-S72471P, S72472K-S72472P, S72479K-S72479P, S72491K-S72491R, S72492K-S72492R, S72499K-S72499R, S728X1K-S728X1R, S728X2K-S728X2R, S728X9K-S728X9R, S7290XK-S7290XR, S7291XK-S7291XR, S7292XK-S7292XR, S79001K-S79001P, S79002K-S79002P, S79009K-S79009P, S79011K-S79011P, S79012K-S79012P, S79019K-S79019P, S79091K-S79091P, S79092K-S79092P, S79099K-S79099P, S79101K-S79101P, S79102K-S79102P, S79109K-S79109P, S79111K-S79111P, S79112K-S79112P, S79119K-S79119P, S79121K-S79121P, S79122K-S79122P, S79129K-S79129P, S79131K-S79131P, S79132K-S79132P, S79139K-S79139P, S79141K-S79141P, S79142K-S79142P, S79149K-S79149P, S79191K-S79191P, S79192K-S79192P, S79199K-S79199P, S82001K-S82001R, S82002K-S82002R, S82009K-S82009R, S82011K-S82011R, S82012K-S82012R, S82013K-S82013R, S82014K-S82014R, S82015K-S82015R, S82016K-S82016R, S82021K-S82021R, S82022K-S82022R, S82023K-S82023R, S82024K-S82024R, S82025K-S82025R, S82026K-S82026R, S82031K-S82031R, S82032K-S82032R, S82033K-S82033R, S82034K-S82034R, S82035K-S82035R, S82036K-S82036R, S82041K-S82041R, S82042K-S82042R, S82043K-S82043R, S82044K-S82044R, S82045K-S82045R, S82046K-S82046R, S82091K-S82091R, S82092K-S82092R, S82099K-S82099R, S82101K-S82101R, S82102K-S82102R, S82109K-S82109R, S82111K-S82111R, S82112K-S82112R, S82113K-S82113R, S82114K-S82114R, S82115K-S82115R, S82116K-S82116R, S82121K-S82121R, S82122K-S82122R, S82123K-S82123R, S82124K-S82124R, S82125K-S82125R, S82126K-S82126R, S82131K-S82131R, S82132K-S82132R, S82133K-S82133R, S82134K-S82134R, S82135K-S82135R, S82136K-S82136R, S82141K-S82141R, S82142K-S82142R, S82143K-S82143R, S82144K-S82144R, S82145K-S82145R, S82146K-S82146R, S82151K-S82151R, S82152K-S82152R, S82153K-S82153R, S82154K-S82154R, S82155K-S82155R, S82156K-S82156R, S82161K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S82161P, S82162K-S82162P, S82169K-S82169P, S82191K-S82191R, S82192K-S82192R, S82199K-S82199R, S82201K-S82201R, S82202K-S82202R, S82209K-S82209R, S82221K-S82221R, S82222K-S82222R, S82223K-S82223R, S82224K-S82224R, S82225K-S82225R, S82226K-S82226R, S82231K-S82231R, S82232K-S82232R, S82233K-S82233R, S82234K-S82234R, S82235K-S82235R, S82236K-S82236R, S82241K-S82241R, S82242K-S82242R, S82243K-S82243R, S82244K-S82244R, S82245K-S82245R, S82246K-S82246R, S82251K-S82251R, S82252K-S82252R, S82253K-S82253R, S82254K-S82254R, S82255K-S82255R, S82256K-S82256R, S82261K-S82261R, S82262K-S82262R, S82263K-S82263R, S82264K-S82264R, S82265K-S82265R, S82266K-S82266R, S82291K-S82291R, S82292K-S82292R, S82299K-S82299R, S82301K-S82301R, S82302K-S82302R, S82309K-S82309R, S82311K-S82311P, S82312K-S82312P, S82319K-S82319P, S82391K-S82391R, S82392K-S82392R, S82399K-S82399R, S82401K-S82401R, S82402K-S82402R, S82409K-S82409R, S82421K-S82421R, S82422K-S82422R, S82423K-S82423R, S82424K-S82424R, S82425K-S82425R, S82426K-S82426R, S82431K-S82431R, S82432K-S82432R, S82433K-S82433R, S82434K-S82434R, S82435K-S82435R, S82436K-S82436R, S82441K-S82441R, S82442K-S82442R, S82443K-S82443R, S82444K-S82444R, S82445K-S82445R, S82446K-S82446R, S82451K-S82451R, S82452K-S82452R, S82453K-S82453R, S82454K-S82454R, S82455K-S82455R, S82456K-S82456R, S82461K-S82461R, S82462K-S82462R, S82463K-S82463R, S82464K-S82464R, S82465K-S82465R, S82466K-S82466R, S82491K-S82491R, S82492K-S82492R, S82499K-S82499R, S8251XK-S8251XR, S8252XK-S8252XR, S8253XK-S8253XR, S8254XK-S8254XR, S8255XK-S8255XR, S8256XK-S8256XR, S8261XK-S8261XR, S8262XK-S8262XR, S8263XK-S8263XR, S8264XK-S8264XR, S8265XK-S8265XR, S8266XK-S8266XR, S82811K-S82811P, S82812K-S82812P, S82819K-S82819P, S82821K-S82821P, S82822K-S82822P, S82829K-S82829P, S82831K-S82831R, S82832K-S82832R, S82839K-S82839R, S82841K-S82841R, S82842K-S82842R, S82843K-S82843R, S82844K-S82844R, S82845K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S82845R, S82846K-S82846R, S82851K-S82851R, S82852K-S82852R, S82853K-S82853R, S82854K-S82854R, S82855K-S82855R, S82856K-S82856R, S82861K-S82861R, S82862K-S82862R, S82863K-S82863R, S82864K-S82864R, S82865K-S82865R, S82866K-S82866R, S82871K-S82871R, S82872K-S82872R, S82873K-S82873R, S82874K-S82874R, S82875K-S82875R, S82876K-S82876R, S82891K-S82891R, S82892K-S82892R, S82899K-S82899R, S8290XK-S8290XR, S8291XK-S8291XR, S8292XK-S8292XR, S89001K-S89001P, S89002K-S89002P, S89009K-S89009P, S89011K-S89011P, S89012K-S89012P, S89019K-S89019P, S89021K-S89021P, S89022K-S89022P, S89029K-S89029P, S89031K-S89031P, S89032K-S89032P, S89039K-S89039P, S89041K-S89041P, S89042K-S89042P, S89049K-S89049P, S89091K-S89091P, S89092K-S89092P, S89099K-S89099P, S89101K-S89101P, S89102K-S89102P, S89109K-S89109P, S89111K-S89111P, S89112K-S89112P, S89119K-S89119P, S89121K-S89121P, S89122K-S89122P, S89129K-S89129P, S89131K-S89131P, S89132K-S89132P, S89139K-S89139P, S89141K-S89141P, S89142K-S89142P, S89149K-S89149P, S89191K-S89191P, S89192K-S89192P, S89199K-S89199P, S89201K-S89201P, S89202K-S89202P, S89209K-S89209P, S89211K-S89211P, S89212K-S89212P, S89219K-S89219P, S89221K-S89221P, S89222K-S89222P, S89229K-S89229P, S89291K-S89291P, S89292K-S89292P, S89299K-S89299P, S89301K-S89301P, S89302K-S89302P, S89309K-S89309P, S89311K-S89311P, S89312K-S89312P, S89319K-S89319P, S89321K-S89321P, S89322K-S89322P, S89329K-S89329P, S89391K-S89391P, S89392K-S89392P, S89399K-S89399P, S92001K-S92001P, S92002K-S92002P, S92009K-S92009P, S92011K-S92011P, S92012K-S92012P, S92013K-S92013P, S92014K-S92014P, S92015K-S92015P, S92016K-S92016P, S92021K-S92021P, S92022K-S92022P, S92023K-S92023P, S92024K-S92024P, S92025K-S92025P, S92026K-S92026P, S92031K-S92031P, S92032K-S92032P, S92033K-S92033P, S92034K-S92034P, S92035K-S92035P, S92036K-S92036P, S92041K-S92041P, S92042K-S92042P, S92043K-S92043P, S92044K-S92044P, S92045K-S92045P, S92046K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S92046P, S92051K-S92051P, S92052K-S92052P, S92053K-S92053P, S92054K-S92054P, S92055K-S92055P, S92056K-S92056P, S92061K-S92061P, S92062K-S92062P, S92063K-S92063P, S92064K-S92064P, S92065K-S92065P, S92066K-S92066P, S92101K-S92101P, S92102K-S92102P, S92109K-S92109P, S92111K-S92111P, S92112K-S92112P, S92113K-S92113P, S92114K-S92114P, S92115K-S92115P, S92116K-S92116P, S92121K-S92121P, S92122K-S92122P, S92123K-S92123P, S92124K-S92124P, S92125K-S92125P, S92126K-S92126P, S92131K-S92131P, S92132K-S92132P, S92133K-S92133P, S92134K-S92134P, S92135K-S92135P, S92136K-S92136P, S92141K-S92141P, S92142K-S92142P, S92143K-S92143P, S92144K-S92144P, S92145K-S92145P, S92146K-S92146P, S92151K-S92151P, S92152K-S92152P, S92153K-S92153P, S92154K-S92154P, S92155K-S92155P, S92156K-S92156P, S92191K-S92191P, S92192K-S92192P, S92199K-S92199P, S92201K-S92201P, S92202K-S92202P, S92209K-S92209P, S92211K-S92211P, S92212K-S92212P, S92213K-S92213P, S92214K-S92214P, S92215K-S92215P, S92216K-S92216P, S92221K-S92221P, S92222K-S92222P, S92223K-S92223P, S92224K-S92224P, S92225K-S92225P, S92226K-S92226P, S92231K-S92231P, S92232K-S92232P, S92233K-S92233P, S92234K-S92234P, S92235K-S92235P, S92236K-S92236P, S92241K-S92241P, S92242K-S92242P, S92243K-S92243P, S92244K-S92244P, S92245K-S92245P, S92246K-S92246P, S92251K-S92251P, S92252K-S92252P, S92253K-S92253P, S92254K-S92254P, S92255K-S92255P, S92256K-S92256P, S92301K-S92301P, S92302K-S92302P, S92309K-S92309P, S92311K-S92311P, S92312K-S92312P, S92313K-S92313P, S92314K-S92314P, S92315K-S92315P, S92316K-S92316P, S92321K-S92321P, S92322K-S92322P, S92323K-S92323P, S92324K-S92324P, S92325K-S92325P, S92326K-S92326P, S92331K-S92331P, S92332K-S92332P, S92333K-S92333P, S92334K-S92334P, S92335K-S92335P, S92336K-S92336P, S92341K-S92341P, S92342K-S92342P, S92343K-S92343P, S92344K-S92344P, S92345K-S92345P, S92346K-S92346P, S92351K-S92351P, S92352K-S92352P, S92353K-S92353P, S92354K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S92354P, S92355K-S92355P, S92356K-S92356P, S92401K-S92401P, S92402K-S92402P, S92403K-S92403P, S92404K-S92404P, S92405K-S92405P, S92406K-S92406P, S92411K-S92411P, S92412K-S92412P, S92413K-S92413P, S92414K-S92414P, S92415K-S92415P, S92416K-S92416P, S92421K-S92421P, S92422K-S92422P, S92423K-S92423P, S92424K-S92424P, S92425K-S92425P, S92426K-S92426P, S92491K-S92491P, S92492K-S92492P, S92499K-S92499P, S92501K-S92501P, S92502K-S92502P, S92503K-S92503P, S92504K-S92504P, S92505K-S92505P, S92506K-S92506P, S92511K-S92511P, S92512K-S92512P, S92513K-S92513P, S92514K-S92514P, S92515K-S92515P, S92516K-S92516P, S92521K-S92521P, S92522K-S92522P, S92523K-S92523P, S92524K-S92524P, S92525K-S92525P, S92526K-S92526P, S92531K-S92531P, S92532K-S92532P, S92533K-S92533P, S92534K-S92534P, S92535K-S92535P, S92536K-S92536P, S92591K-S92591P, S92592K-S92592P, S92599K-S92599P, S92811K-S92811P, S92812K-S92812P, S92819K-S92819P, S92901K-S92901P, S92902K-S92902P, S92909K-S92909P, S92911K-S92911P, S92912K-S92912P, S92919K-S92919P, S99001K-S99001P, S99002K-S99002P, S99009K-S99009P, S99011K-S99011P, S99012K-S99012P, S99019K-S99019P, S99021K-S99021P, S99022K-S99022P, S99029K-S99029P, S99031K-S99031P, S99032K-S99032P, S99039K-S99039P, S99041K-S99041P, S99042K-S99042P, S99049K-S99049P, S99091K-S99091P, S99092K-S99092P, S99099K-S99099P, S99101K-S99101P, S99102K-S99102P, S99109K-S99109P, S99111K-S99111P, S99112K-S99112P, S99119K-S99119P, S99121K-S99121P, S99122K-S99122P, S99129K-S99129P, S99131K-S99131P, S99132K-S99132P, S99139K-S99139P, S99141K-S99141P, S99142K-S99142P, S99149K-S99149P, S99191K-S99191P, S99192K-S99192P, S99199K-S99199P, S99201K-S99201P, S99202K-S99202P, S99209K-S99209P, S99211K-S99211P, S99212K-S99212P, S99219K-S99219P, S99221K-S99221P, S99222K-S99222P, S99229K-S99229P, S99231K-S99231P, S99232K-S99232P, S99239K-S99239P, S99241K-S99241P, S99242K-S99242P, S99249K-S99249P, S99291K-S99291P, S99292K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S99292P, S99299K-S99299P, T800XXA, T801XXA, T80211A, T80212A, T80218A, T80219A, T8022XA, T8029XA, T8030XA, T80310A, T80311A, T80319A, T8039XA, T8040XA, T80410A, T80411A, T80419A, T8049XA, T8051XA, T8052XA, T8059XA, T8061XA, T8062XA, T8069XA, T80810A, T80818A, T8089XA, T8090XA, T80910A, T80911A, T80919A, T8092XA, T80A0XA, T80A10A, T80A11A, T80A19A, T80A9XA, T8181XA, T83711A, T83721A, T880XXA, T881XXA, T884XXA, T887XXA, T888XXA, T889XXA
54.	54. Other conditions not related to Dementia (OTHC_DEMT)	OTHC except 005, 008, 009, 013, 038, 041, 046, 094, 242, 244, 252, 266, 276, 317-319, 327, 332, 333, 417, 440, 487-488, 521-523, 590, 595, 780-781, 797, 799, 999	OTHC except 005, 008, 009, 013, 038, 041, 046, 094, 242, 244, 252, 266, 276, 317-319, 327, 332, 333, 417, 440, 487-488, 521-523, 590, 595, 780-781, 797, 799, 999	A001-A039, A060-A079, A150-A159, A1783 A179-A329, A35-A399, A420-A422, A4281-A480, A482-A488, A5001-A519, A5215-A5216, A5271-A809, A820-B199, B250-B780, B787-B949, B970-B999, C880, C965-C966, D100-D219, D241-D369, D472, D474, D481, D500-D77, D800-D81810, D8189-E012, E030-E031, E034, E040-E049, E060-E099, E103521-E103549, E1041, E1043-E1052, E10610, E113521-E113549, E1141, E1143-E1152, E11610, E1300 E201, E220-E35, E40-E52, E54-E649, E700-E712, E71310-E7519, E7523, E7525-E7529, E754, E7601-E769, E771, E7871-E7872, E790-E8319, E8330-E859, E8801-E8809, E883-E889, E891, E893-E896, F3281, F54, F800-F82, F842, F88-F89, G000-G09, G110-G131, G14, G3181-G3182, G319-G4489, G453, G47411-G47429, G500-G802, G804-G902, G904-G909, G911, G913, G918-G932, G9340-G936, G9381-G939, G950-G969, G971, G9741, G9782-H579, H5940-H5943, H6000-H95199, I300-I339, I39-I41, I6000-I629, I670, I6783, I70361-I70369, I70461-I70469, I70561-I70569, I70661-I70669, I70761-I70769, I7100-I8393, I87001-I96, I972, I998-J069 J17, J181-J182, J200-J40, J60-J668, J680-J953, J95811-J95822, J9584, J9600-K011, K080-K67, K6812-K912, K915, K91850-K91858, K9189-K9589, L081, L444, L600-L660, L662-L663, L668-L689, L7211-L7212, L731, L738 L946, M0000-M049, M0540-M0559, M0760-M0769, M1000-M119, M1220-M1249, M1280, M1460 M1A00X0-M1A09X1, M1A20X0-M25776, M2580-M352, M354-M4319, M433-M435X9, M438X1-M439, M4620-M4639, M4840XA, M4841XA, M4842XA, M4843XA, M4844XA, M4845XA, M4846XA, M4847XA, M4848XA, M4850XA, M4851XA, M4852XA, M4853XA, M4854XA, M4855XA, M4856XA, M4857XA, M4858XA,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				M532X1, M532X9, M5410, M5418, M60000, M62831, M80011A, M80012A, M80019A, M80021A, M80022A, M80029A, M80031A, M80032A, M80039A, M80041A, M80042A, M80049A, M80051A, M80052A, M80059A, M80061A, M80062A, M80069A, M80071A, M80072A, M80079A, M8008XA, M8080XA, M80811A, M80812A, M80819A, M80821A, M80822A, M80829A, M80831A, M80832A, M80839A, M80841A, M80842A, M80849A, M80851A, M80852A, M80859A, M80861A, M80862A, M80869A, M80871A, M80872A, M80879A, M8088XA, M810, M84311A, M84312A, M84319A, M84321A, M84322A, M84329A, M84331A, M84332A, M84333A, M84334A, M84339A, M84341A, M84342A, M84343A, M84344A, M84345A, M84346A, M84350A, M84351A, M84352A, M84353A, M84359A, M84361A, M84362A, M84363A, M84364A, M84369A, M84371A, M84372A, M84373A, M84374A, M84375A, M84376A, M84377A, M84378A, M84379A, M8438XA, M8440XA, M84411A, M84412A, M84419A, M84421A, M84422A, M84429A, M84431A, M84432A, M84433A, M84434A, M84439A, M84441A, M84442A, M84443A, M84444A, M84445A, M84446A, M84451A, M84452A, M84453A, M84454A, M84459A, M84461A, M84462A, M84463A, M84464A, M84469A, M84471A, M84472A, M84473A, M84474A, M84475A, M84476A, M84477A, M84478A, M84479A, M8448XA, M8450XA, M84511A, M84512A, M84519A, M84521A, M84522A, M84529A, M84531A, M84532A, M84533A, M84534A, M84539A, M84541A, M84542A, M84549A, M84550A, M84551A, M84552A, M84553A, M84559A, M84561A, M84562A, M84563A, M84564A, M84569A, M84571A, M84572A, M84573A, M84574A, M84575A, M84576A, M8458XA, M8460XA, M84611A, M84612A, M84619A, M84621A, M84622A, M84629A, M84631A, M84632A, M84633A, M84634A, M84639A, M84641A, M84642A, M84649A, M84650A, M84651A, M84652A, M84653A, M84659A, M84661A, M84662A, M84663A, M84664A, M84669A, M84671A, M84672A, M84673A, M84674A, M84675A, M84676A, M8468XA, M84750A, M84751A, M84752A, M84753A, M84754A, M84755A, M84756A, M84757A, M84758A, M84759A, M8480, M962, M9900, M9980, N111, N130, N1370, N158, N171, N200, N270, N2889, N310, N981, N99110, N9983, NODX, O280, P09, P293, Q000, Q250, Q851, Q870, R002, R091, R093, R180, R220, R252, R262, R292, R294,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				R29898, R300, R390, R441, R4701, R51, R570, R620, R6521, R682, R6884, R700, S020XXK, S02101K, S02102K, S02109K, S0210XK, S02110K, S02111K, S02112K, S02113K, S02118K, <u>S02119K</u> , <u>S0211AK</u> , <u>S0211BK</u> , <u>S0211CK</u> , <u>S0211DK</u> , <u>S0211EK</u> , S0211FK, S0211GK, S0211HK, S0219XK, S022XXK, S0230XK, S0231XK, S0232XK, S023XXK, S02400K, S02401K, S02402K, S0240AK, S0240BK, S0240CK, S0240DK, S0240EK, S0240FK, S02411K, S02412K, S02413K, S0242XK, S025XXK, S02600K, S02601K, S02602K, S02609K, S02610K, S02611K, S02612K, S0261XK, S02620K, S02621K, S02622K, S0262XK, S02630K, S02631K, S02632K, S0263XK, S02640K, S02641K, S02642K, S0264XK, S02650K, S02651K, S02652K, S0265XK, S0266XK, S02670K, S02671K, S02672K, S0267XK, S0269XK, S0280XK, S0281XK, S0282XK, S028XXK, S0291XK, S0292XK, S061X0A, S061X1A, S061X2A, S061X3A, S061X4A, S061X5A, S061X6A, S061X7A, S061X8A, S061X9A, S12000K, S12001K, S1201XK, S1202XK, S12030K, S12031K, S12040K, S12041K, S12090K, S12091K, S12100K, S12101K, S12110K, S12111K, S12112K, S12120K, S12121K, S12130K, S12131K, S1214XK, S12150K, S12151K, S12190K, S12191K, S12200K, S12201K, S12230K, S12231K, S1224XK, S12250K, S12251K, S12290K, S12291K, S12300K, S12301K, S12330K, S12331K, S1234XK, S12350K, S12351K, S12390K, S12391K, S12400K, S12401K, S12430K, S12431K, S1244XK, S12450K, S12451K, S12490K, S12491K, S12500K, S12501K, S12530K, S12531K, S1254XK, S12550K, S12551K, S12590K, S12591K, S12600K, S12601K, S12630K, S12631K, S1264XK, S12650K, S12651K, S12690K, S12691K, S22000K, S22001K, S22002K, S22008K, S22009K, S22010K, S22011K, S22012K, S22018K, S22019K, S22020K, S22021K, S22022K, S22028K, S22029K, S22030K, S22031K, S22032K, S22038K, S22039K, S22040K, S22041K, S22042K, S22048K, S22049K, S22050K, S22051K, S22052K, S22058K, S22059K, S22060K, S22061K, S22062K, S22068K, S22069K, S22070K, S22071K, S22072K, S22078K, S22079K, S22080K, S22081K, S22082K, S22088K, S22089K, S2220XK, S2221XK, S2222XK, S2223XK, S2224XK, S2231XK, S2232XK, S2239XK, S2241XK, S2242XK, S2243XK, S2249XK, S225XXK, S229XXK, S32000K, S32001K,

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S32002K, S32008K, S32009K, S32010K, S32011K, S32012K, S32018K, S32019K, S32020K, S32021K, S32022K, S32028K, S32029K, S32030K, S32031K, S32032K, S32038K, S32039K, S32040K, S32041K, S32042K, S32048K, S32049K, S32050K, S32051K, S32052K, S32058K, S32059K, S3210XK, S32110K, S32111K, S32112K, S32119K, S32120K, S32121K, S32122K, S32129K, S32130K, S32131K, S32132K, S32139K, S3214XK, S3215XK, S3216XK, S3217XK, S3219XK, S322XXK, S32301K, S32302K, S32309K, S32311K, S32312K, S32313K, S32314K, S32315K, S32316K, S32391K, S32392K, S32399K, S32401K, S32402K, S32409K, S32411K, S32412K, S32413K, S32414K, S32415K, S32416K, S32421K, S32422K, S32423K, S32424K, S32425K, S32426K, S32431K, S32432K, S32433K, S32434K, S32435K, S32436K, S32441K, S32442K, S32443K, S32444K, S32445K, S32446K, S32451K, S32452K, S32453K, S32454K, S32455K, S32456K, S32461K, S32462K, S32463K, S32464K, S32465K, S32466K, S32471K, S32472K, S32473K, S32474K, S32475K, S32476K, S32481K, S32482K, S32483K, S32484K, S32485K, S32486K, S32491K, S32492K, S32499K, S32501K, S32502K, S32509K, S32511K, S32512K, S32519K, S32591K, S32592K, S32599K, S32601K, S32602K, S32609K, S32611K, S32612K, S32613K, S32614K, S32615K, S32616K, S32691K, S32692K, S32699K, S32810K, S32811K, S3282XK, S3289XK, S329XXK, S42001K-S42001P, S42002K-S42002P, S42009K-S42009P, S42011K-S42011P, S42012K-S42012P, S42013K-S42013P, S42014K-S42014P, S42015K-S42015P, S42016K-S42016P, S42017K-S42017P, S42018K-S42018P, S42019K-S42019P, S42021K-S42021P, S42022K-S42022P, S42023K-S42023P, S42024K-S42024P, S42025K-S42025P, S42026K-S42026P, S42031K-S42031P, S42032K-S42032P, S42033K-S42033P, S42034K-S42034P, S42035K-S42035P, S42036K-S42036P, S42101K-S42101P, S42102K-S42102P, S42109K-S42109P, S42111K-S42111P, S42112K-S42112P, S42113K-S42113P, S42114K-S42114P, S42115K-S42115P, S42116K-S42116P, S42121K-S42121P, S42122K-S42122P, S42123K-S42123P, S42124K-S42124P, S42125K-S42125P, <u>S42126K-S42126P</u> , <u>S42131K-S42131P</u> , <u>S42132K-S42132P</u> , S42133K-S42133P, S42134K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S42134P, S42135K-S42135P, S42136K-S42136P, S42141K-S42141P, S42142K-S42142P, S42143K-S42143P, S42144K-S42144P, S42145K-S42145P, S42146K-S42146P, S42151K-S42151P, S42152K-S42152P, S42153K-S42153P, S42154K-S42154P, S42155K-S42155P, S42156K-S42156P, S42191K-S42191P, S42192K-S42192P, S42199K-S42199P, S42201K-S42201P, S42202K-S42202P, S42209K-S42209P, S42211K-S42211P, S42212K-S42212P, S42213K-S42213P, S42214K-S42214P, S42215K-S42215P, S42216K-S42216P, S42221K-S42221P, S42222K-S42222P, S42223K-S42223P, S42224K-S42224P, S42225K-S42225P, S42226K-S42226P, S42231K-S42231P, S42232K-S42232P, S42239K-S42239P, S42241K-S42241P, S42242K-S42242P, S42249K-S42249P, S42251K-S42251P, S42252K-S42252P, S42253K-S42253P, S42254K-S42254P, S42255K-S42255P, S42256K-S42256P, S42261K-S42261P, S42262K-S42262P, S42263K-S42263P, S42264K-S42264P, S42265K-S42265P, S42266K-S42266P, S42271K-S42271P, S42272K-S42272P, S42279K-S42279P, S42291K-S42291P, S42292K-S42292P, S42293K-S42293P, S42294K-S42294P, S42295K-S42295P, S42296K-S42296P, S42301K-S42301P, S42302K-S42302P, S42309K-S42309P, S42311K-S42311P, S42312K-S42312P, S42319K-S42319P, S42321K-S42321P, S42322K-S42322P, S42323K-S42323P, S42324K-S42324P, S42325K-S42325P, S42326K-S42326P, S42331K-S42331P, S42332K-S42332P, S42333K-S42333P, S42334K-S42334P, S42335K-S42335P, S42336K-S42336P, S42341K-S42341P, S42342K-S42342P, S42343K-S42343P, S42344K-S42344P, S42345K-S42345P, S42346K-S42346P, S42351K-S42351P, S42352K-S42352P, S42353K-S42353P, S42354K-S42354P, S42355K-S42355P, S42356K-S42356P, S42361K-S42361P, S42362K-S42362P, S42363K-S42363P, S42364K-S42364P, S42365K-S42365P, S42366K-S42366P, S42391K-S42391P, S42392K-S42392P, S42399K-S42399P, S42401K-S42401P, S42402K-S42402P, S42409K-S42409P, S42411K-S42411P, S42412K-S42412P, S42413K-S42413P, S42414K-S42414P, S42415K-S42415P, S42416K-S42416P, S42421K-S42421P, S42422K-S42422P, S42423K-S42423P, S42424K-S42424P, S42425K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S42425P, S42426K-S42426P, S42431K-S42431P, S42432K-S42432P, S42433K-S42433P, S42434K-S42434P, S42435K-S42435P, S42436K-S42436P, S42441K-S42441P, S42442K-S42442P, S42443K-S42443P, S42444K-S42444P, S42445K-S42445P, S42446K-S42446P, S42447K-S42447P, S42448K-S42448P, S42449K-S42449P, S42451K-S42451P, S42452K-S42452P, S42453K-S42453P, S42454K-S42454P, S42455K-S42455P, S42456K-S42456P, S42461K-S42461P, S42462K-S42462P, S42463K-S42463P, S42464K-S42464P, S42465K-S42465P, S42466K-S42466P, S42471K-S42471P, S42472K-S42472P, S42473K-S42473P, S42474K-S42474P, S42475K-S42475P, S42476K-S42476P, S42481K-S42481P, S42482K-S42482P, S42489K-S42489P, S42491K-S42491P, S42492K-S42492P, S42493K-S42493P, S42494K-S42494P, S42495K-S42495P, S42496K-S42496P, S4290XK-S4290XP, S4291XK-S4291XP, S4292XK-S4292XP, S49001K-S49001P, S49002K-S49002P, S49009K-S49009P, S49011K-S49011P, S49012K-S49012P, S49019K-S49019P, S49021K-S49021P, S49022K-S49022P, S49029K-S49029P, S49031K-S49031P, S49032K-S49032P, S49039K-S49039P, S49041K-S49041P, S49042K-S49042P, S49049K-S49049P, S49091K-S49091P, S49092K-S49092P, S49099K-S49099P, S49101K-S49101P, S49102K-S49102P, S49109K-S49109P, S49111K-S49111P, S49112K-S49112P, S49119K-S49119P, S49121K-S49121P, S49122K-S49122P, S49129K-S49129P, S49131K-S49131P, S49132K-S49132P, S49139K-S49139P, S49141K-S49141P, S49142K-S49142P, S49149K-S49149P, S49191K-S49191P, S49192K-S49192P, S49199K-S49199P, S52001K-S52001R, S52002K-S52002R, S52009K-S52009R, S52011K-S52011P, S52012K-S52012P, S52019K-S52019P, S52021K-S52021R, S52022K-S52022R, S52023K-S52023R, S52024K-S52024R, S52025K-S52025R, <u>S52026K-S52026R</u> , <u>S52031K-S52031R</u> , <u>S52032K-S52032R</u> , <u>S52033K-S52033R</u> , S52034K-S52034R, S52035K-S52035R, S52036K-S52036R, S52041K-S52041R, S52042K-S52042R, S52043K-S52043R, S52044K-S52044R, S52045K-S52045R, S52046K-S52046R, S52091K-S52091R, S52092K-S52092R, S52099K-S52099R, S52101K-S52101R, S52102K-S52102R, S52109K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S52109R, S52111K-S52111P, S52112K-S52112P, S52119K-S52119P, S52121K-S52121R, S52122K-S52122R, S52123K-S52123R, S52124K-S52124R, S52125K-S52125R, S52126K-S52126R, S52131K-S52131R, S52132K-S52132R, S52133K-S52133R, S52134K-S52134R, S52135K-S52135R, S52136K-S52136R, S52181K-S52181R, S52182K-S52182R, S52189K-S52189R, S52201K-S52201R, S52202K-S52202R, S52209K-S52209R, S52211K-S52211P, S52212K-S52212P, S52219K-S52219P, S52221K-S52221R, S52222K-S52222R, S52223K-S52223R, S52224K-S52224R, S52225K-S52225R, S52226K-S52226R, S52231K-S52231R, S52232K-S52232R, S52233K-S52233R, S52234K-S52234R, S52235K-S52235R, S52236K-S52236R, S52241K-S52241R, S52242K-S52242R, S52243K-S52243R, S52244K-S52244R, S52245K-S52245R, S52246K-S52246R, S52251K-S52251R, S52252K-S52252R, S52253K-S52253R, S52254K-S52254R, S52255K-S52255R, S52256K-S52256R, S52261K-S52261R, S52262K-S52262R, S52263K-S52263R, S52264K-S52264R, S52265K-S52265R, S52266K-S52266R, S52271K-S52271R, S52272K-S52272R, S52279K-S52279R, S52281K-S52281R, S52282K-S52282R, S52283K-S52283R, S52291K-S52291R, S52292K-S52292R, S52299K-S52299R, S52301K-S52301R, S52302K-S52302R, S52309K-S52309R, S52311K-S52311P, S52312K-S52312P, S52319K-S52319P, S52321K-S52321R, S52322K-S52322R, S52323K-S52323R, S52324K-S52324R, S52325K-S52325R, S52326K-S52326R, S52331K-S52331R, S52332K-S52332R, S52333K-S52333R, S52334K-S52334R, S52335K-S52335R, S52336K-S52336R, S52341K-S52341R, S52342K-S52342R, S52343K-S52343R, S52344K-S52344R, S52345K-S52345R, S52346K-S52346R, S52351K-S52351R, S52352K-S52352R, S52353K-S52353R, S52354K-S52354R, S52355K-S52355R, S52356K-S52356R, S52361K-S52361R, S52362K-S52362R, S52363K-S52363R, S52364K-S52364R, S52365K-S52365R, S52366K-S52366R, S52371K-S52371R, S52372K-S52372R, S52379K-S52379R, S52381K-S52381R, S52382K-S52382R, S52389K-S52389R, S52391K-S52391R, S52392K-S52392R, S52399K-S52399R, S52501K-S52501R, S52502K-S52502R, S52509K-S52509R, S52511K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S52511R, S52512K-S52512R, S52513K-S52513R, S52514K-S52514R, S52515K-S52515R, S52516K-S52516R, S52521K-S52521P, S52522K-S52522P, S52529K-S52529P, S52531K-S52531R, S52532K-S52532R, S52539K-S52539R, S52541K-S52541R, S52542K-S52542R, S52549K-S52549R, S52551K-S52551R, S52552K-S52552R, S52559K-S52559R, S52561K-S52561R, S52562K-S52562R, S52569K-S52569R, S52571K-S52571R, S52572K-S52572R, S52579K-S52579R, S52591K-S52591R, S52592K-S52592R, S52599K-S52599R, S52601K-S52601R, S52602K-S52602R, S52609K-S52609R, S52611K-S52611R, S52612K-S52612R, S52613K-S52613R, S52614K-S52614R, S52615K-S52615R, S52616K-S52616R, S52621K-S52621P, S52622K-S52622P, S52629K-S52629P, S52691K-S52691R, S52692K-S52692R, S52699K-S52699R, S5290XK-S5290XR, S5291XK-S5291XR, S5292XK-S5292XR, S59001K-S59001P, S59002K-S59002P, S59009K-S59009P, S59011K-S59011P, S59012K-S59012P, S59019K-S59019P, S59021K-S59021P, S59022K-S59022P, S59029K-S59029P, S59031K-S59031P, S59032K-S59032P, S59039K-S59039P, S59041K-S59041P, S59042K-S59042P, S59049K-S59049P, S59091K-S59091P, S59092K-S59092P, S59099K-S59099P, S59101K-S59101P, S59102K-S59102P, S59109K-S59109P, S59111K-S59111P, S59112K-S59112P, S59119K-S59119P, S59121K-S59121P, S59122K-S59122P, S59129K-S59129P, S59131K-S59131P, S59132K-S59132P, S59139K-S59139P, S59141K-S59141P, S59142K-S59142P, S59149K-S59149P, S59191K-S59191P, S59192K-S59192P, <u>S59199K-S59199P</u> , <u>S59201K-S59201P</u> , <u>S59202K-S59202P</u> , S59209K-S59209P, S59211K-S59211P, S59212K-S59212P, S59219K-S59219P, S59221K-S59221P, S59222K-S59222P, S59229K-S59229P, S59231K-S59231P, S59232K-S59232P, S59239K-S59239P, S59241K-S59241P, S59242K-S59242P, S59249K-S59249P, S59291K-S59291P, S59292K-S59292P, S59299K-S59299P, S62001K-S62001P, S62002K-S62002P, S62009K-S62009P, S62011K-S62011P, S62012K-S62012P, S62013K-S62013P, S62014K-S62014P, S62015K-S62015P, S62016K-S62016P, S62021K-S62021P, S62022K-S62022P, S62023K-S62023P, S62024K-S62024P, S62025K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62025P, S62026K-S62026P, S62031K-S62031P, S62032K-S62032P, S62033K-S62033P, S62034K-S62034P, S62035K-S62035P, S62036K-S62036P, S62101K-S62101P, S62102K-S62102P, S62109K-S62109P, S62111K-S62111P, S62112K-S62112P, S62113K-S62113P, S62114K-S62114P, S62115K-S62115P, S62116K-S62116P, S62121K-S62121P, S62122K-S62122P, S62123K-S62123P, S62124K-S62124P, S62125K-S62125P, S62126K-S62126P, S62131K-S62131P, S62132K-S62132P, S62133K-S62133P, S62134K-S62134P, S62135K-S62135P, S62136K-S62136P, S62141K-S62141P, S62142K-S62142P, S62143K-S62143P, S62144K-S62144P, S62145K-S62145P, S62146K-S62146P, S62151K-S62151P, S62152K-S62152P, S62153K-S62153P, S62154K-S62154P, S62155K-S62155P, S62156K-S62156P, S62161K-S62161P, S62162K-S62162P, S62163K-S62163P, S62164K-S62164P, S62165K-S62165P, S62166K-S62166P, S62171K-S62171P, S62172K-S62172P, S62173K-S62173P, S62174K-S62174P, S62175K-S62175P, S62176K-S62176P, S62181K-S62181P, S62182K-S62182P, S62183K-S62183P, S62184K-S62184P, S62185K-S62185P, S62186K-S62186P, S62201K-S62201P, S62202K-S62202P, S62209K-S62209P, S62211K-S62211P, S62212K-S62212P, S62213K-S62213P, S62221K-S62221P, S62222K-S62222P, S62223K-S62223P, S62224K-S62224P, S62225K-S62225P, S62226K-S62226P, S62231K-S62231P, S62232K-S62232P, S62233K-S62233P, S62234K-S62234P, S62235K-S62235P, S62236K-S62236P, S62241K-S62241P, S62242K-S62242P, S62243K-S62243P, S62244K-S62244P, S62245K-S62245P, S62246K-S62246P, S62251K-S62251P, S62252K-S62252P, S62253K-S62253P, S62254K-S62254P, S62255K-S62255P, S62256K-S62256P, S62291K-S62291P, S62292K-S62292P, S62299K-S62299P, S62300K-S62300P, S62301K-S62301P, S62302K-S62302P, S62303K-S62303P, S62304K-S62304P, S62305K-S62305P, S62306K-S62306P, S62307K-S62307P, S62308K-S62308P, S62309K-S62309P, S62310K-S62310P, S62311K-S62311P, S62312K-S62312P, S62313K-S62313P, S62314K-S62314P, S62315K-S62315P, S62316K-S62316P, S62317K-S62317P, S62318K-S62318P, S62319K-S62319P, S62320K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62320P, S62321K-S62321P, S62322K-S62322P, S62323K-S62323P, S62324K-S62324P, S62325K-S62325P, S62326K-S62326P, S62327K-S62327P, S62328K-S62328P, S62329K-S62329P, S62330K-S62330P, S62331K-S62331P, S62332K-S62332P, S62333K-S62333P, S62334K-S62334P, S62335K-S62335P, S62336K-S62336P, S62337K-S62337P, S62338K-S62338P, S62339K-S62339P, S62340K-S62340P, S62341K-S62341P, S62342K-S62342P, S62343K-S62343P, S62344K-S62344P, S62345K-S62345P, S62346K-S62346P, S62347K-S62347P, S62348K-S62348P, S62349K-S62349P, S62350K-S62350P, S62351K-S62351P, S62352K-S62352P, S62353K-S62353P, S62354K-S62354P, S62355K-S62355P, S62356K-S62356P, S62357K-S62357P, S62358K-S62358P, S62359K-S62359P, S62360K-S62360P, S62361K-S62361P, S62362K-S62362P, S62363K-S62363P, S62364K-S62364P, S62365K-S62365P, S62366K-S62366P, S62367K-S62367P, S62368K-S62368P, S62369K-S62369P, S62390K-S62390P, S62391K-S62391P, S62392K-S62392P, S62393K-S62393P, S62394K-S62394P, S62395K-S62395P, S62396K-S62396P, S62397K-S62397P, S62398K-S62398P, S62399K-S62399P, S62501K-S62501P, S62502K-S62502P, S62509K-S62509P, S62511K-S62511P, S62512K-S62512P, S62513K-S62513P, <u>S62514K-S62514P</u> , <u>S62515K-S62515P</u> , <u>S62516K-S62516P</u> , S62521K-S62521P, S62522K-S62522P, S62523K-S62523P, S62524K-S62524P, S62525K-S62525P, S62526K-S62526P, S62600K-S62600P, S62601K-S62601P, S62602K-S62602P, S62603K-S62603P, S62604K-S62604P, S62605K-S62605P, S62606K-S62606P, S62607K-S62607P, S62608K-S62608P, S62609K-S62609P, S62610K-S62610P, S62611K-S62611P, S62612K-S62612P, S62613K-S62613P, S62614K-S62614P, S62615K-S62615P, S62616K-S62616P, S62617K-S62617P, S62618K-S62618P, S62619K-S62619P, S62620K-S62620P, S62621K-S62621P, S62622K-S62622P, S62623K-S62623P, S62624K-S62624P, S62625K-S62625P, S62626K-S62626P, S62627K-S62627P, S62628K-S62628P, S62629K-S62629P, S62630K-S62630P, S62631K-S62631P, S62632K-S62632P, S62633K-S62633P, S62634K-S62634P, S62635K-S62635P, S62636K-S62636P, S62637K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S62637P, S62638K-S62638P, S62639K-S62639P, S62640K-S62640P, S62641K-S62641P, S62642K-S62642P, S62643K-S62643P, S62644K-S62644P, S62645K-S62645P, S62646K-S62646P, S62647K-S62647P, S62648K-S62648P, S62649K-S62649P, S62650K-S62650P, S62651K-S62651P, S62652K-S62652P, S62653K-S62653P, S62654K-S62654P, S62655K-S62655P, S62656K-S62656P, S62657K-S62657P, S62658K-S62658P, S62659K-S62659P, S62660K-S62660P, S62661K-S62661P, S62662K-S62662P, S62663K-S62663P, S62664K-S62664P, S62665K-S62665P, S62666K-S62666P, S62667K-S62667P, S62668K-S62668P, S62669K-S62669P, S6290XK-S6290XP, S6291XK-S6291XP, S6292XK-S6292XP, S72001K-S72001R, S72002K-S72002R, S72009K-S72009R, S72011K-S72011R, S72012K-S72012R, S72019K-S72019R, S72021K-S72021R, S72022K-S72022R, S72023K-S72023R, S72024K-S72024R, S72025K-S72025R, S72026K-S72026R, S72031K-S72031R, S72032K-S72032R, S72033K-S72033R, S72034K-S72034R, S72035K-S72035R, S72036K-S72036R, S72041K-S72041R, S72042K-S72042R, S72043K-S72043R, S72044K-S72044R, S72045K-S72045R, S72046K-S72046R, S72051K-S72051R, S72052K-S72052R, S72059K-S72059R, S72061K-S72061R, S72062K-S72062R, S72063K-S72063R, S72064K-S72064R, S72065K-S72065R, S72066K-S72066R, S72091K-S72091R, S72092K-S72092R, S72099K-S72099R, S72101K-S72101R, S72102K-S72102R, S72109K-S72109R, S72111K-S72111R, S72112K-S72112R, S72113K-S72113R, S72114K-S72114R, S72115K-S72115R, S72116K-S72116R, S72121K-S72121R, S72122K-S72122R, S72123K-S72123R, S72124K-S72124R, S72125K-S72125R, S72126K-S72126R, S72131K-S72131R, S72132K-S72132R, S72133K-S72133R, S72134K-S72134R, S72135K-S72135R, S72136K-S72136R, S72141K-S72141R, S72142K-S72142R, S72143K-S72143R, S72144K-S72144R, S72145K-S72145R, S72146K-S72146R, S7221XK-S7221XR, S7222XK-S7222XR, S7223XK-S7223XR, S7224XK-S7224XR, S7225XK-S7225XR, S7226XK-S7226XR, S72301K-S72301R, S72302K-S72302R, S72309K-S72309R, S72321K-S72321R, S72322K-S72322R, S72323K-S72323R, S72324K-S72324R, S72325K-

Treated Chronic Disease Prevalence and Costs in Minnesota: Supplemental Appendices

Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S72325R, S72326K-S72326R, S72331K-S72331R, S72332K-S72332R, S72333K-S72333R, S72334K-S72334R, S72335K-S72335R, S72336K-S72336R, S72341K-S72341R, S72342K-S72342R, S72343K-S72343R, S72344K-S72344R, S72345K-S72345R, S72346K-S72346R, S72351K-S72351R, S72352K-S72352R, S72353K-S72353R, S72354K-S72354R, S72355K-S72355R, S72356K-S72356R, S72361K-S72361R, S72362K-S72362R, S72363K-S72363R, S72364K-S72364R, S72365K-S72365R, S72366K-S72366R, S72391K-S72391R, S72392K-S72392R, S72399K-S72399R, S72401K-S72401R, S72402K-S72402R, S72409K-S72409R, S72411K-S72411R, S72412K-S72412R, S72413K-S72413R, S72414K-S72414R, S72415K-S72415R, S72416K-S72416R, S72421K-S72421R, S72422K-S72422R, S72423K-S72423R, S72424K-S72424R, S72425K-S72425R, S72426K-S72426R, S72431K-S72431R, S72432K-S72432R, S72433K-S72433R, S72434K-S72434R, S72435K-S72435R, S72436K-S72436R, S72441K-S72441R, S72442K-S72442R, <u>S72443K-S72443R</u> , <u>S72444K-S72444R</u> , <u>S72445K-S72445R</u> , S72446K-S72446R, S72451K-S72451R, S72452K-S72452R, S72453K-S72453R, S72454K-S72454R, S72455K-S72455R, S72456K-S72456R, S72461K-S72461R, S72462K-S72462R, S72463K-S72463R, S72464K-S72464R, S72465K-S72465R, S72466K-S72466R, S72471K-S72471P, S72472K-S72472P, S72479K-S72479P, S72491K-S72491R, S72492K-S72492R, S72499K-S72499R, S728X1K-S728X1R, S728X2K-S728X2R, S728X9K-S728X9R, S7290XK-S7290XR, S7291XK-S7291XR, S7292XK-S7292XR, S79001K-S79001P, S79002K-S79002P, S79009K-S79009P, S79011K-S79011P, S79012K-S79012P, S79019K-S79019P, S79091K-S79091P, S79092K-S79092P, S79099K-S79099P, S79101K-S79101P, S79102K-S79102P, S79109K-S79109P, S79111K-S79111P, S79112K-S79112P, S79119K-S79119P, S79121K-S79121P, S79122K-S79122P, S79129K-S79129P, S79131K-S79131P, S79132K-S79132P, S79139K-S79139P, S79141K-S79141P, S79142K-S79142P, S79149K-S79149P, S79191K-S79191P, S79192K-S79192P, S79199K-S79199P, S82001K-S82001R, S82002K-S82002R, S82009K-S82009R, S82011K-S82011R, S82012K-S82012R, S82013K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S82013R, S82014K-S82014R, S82015K-S82015R, S82016K-S82016R, S82021K-S82021R, S82022K-S82022R, S82023K-S82023R, S82024K-S82024R, S82025K-S82025R, S82026K-S82026R, S82031K-S82031R, S82032K-S82032R, S82033K-S82033R, S82034K-S82034R, S82035K-S82035R, S82036K-S82036R, S82041K-S82041R, S82042K-S82042R, S82043K-S82043R, S82044K-S82044R, S82045K-S82045R, S82046K-S82046R, S82091K-S82091R, S82092K-S82092R, S82099K-S82099R, S82101K-S82101R, S82102K-S82102R, S82109K-S82109R, S82111K-S82111R, S82112K-S82112R, S82113K-S82113R, S82114K-S82114R, S82115K-S82115R, S82116K-S82116R, S82121K-S82121R, S82122K-S82122R, S82123K-S82123R, S82124K-S82124R, S82125K-S82125R, S82126K-S82126R, S82131K-S82131R, S82132K-S82132R, S82133K-S82133R, S82134K-S82134R, S82135K-S82135R, S82136K-S82136R, S82141K-S82141R, S82142K-S82142R, S82143K-S82143R, S82144K-S82144R, S82145K-S82145R, S82146K-S82146R, S82151K-S82151R, S82152K-S82152R, S82153K-S82153R, S82154K-S82154R, S82155K-S82155R, S82156K-S82156R, S82161K-S82161P, S82162K-S82162P, S82169K-S82169P, S82191K-S82191R, S82192K-S82192R, S82199K-S82199R, S82201K-S82201R, S82202K-S82202R, S82209K-S82209R, S82221K-S82221R, S82222K-S82222R, S82223K-S82223R, S82224K-S82224R, S82225K-S82225R, S82226K-S82226R, S82231K-S82231R, S82232K-S82232R, S82233K-S82233R, S82234K-S82234R, S82235K-S82235R, S82236K-S82236R, S82241K-S82241R, S82242K-S82242R, S82243K-S82243R, S82244K-S82244R, S82245K-S82245R, S82246K-S82246R, S82251K-S82251R, S82252K-S82252R, S82253K-S82253R, S82254K-S82254R, S82255K-S82255R, S82256K-S82256R, S82261K-S82261R, S82262K-S82262R, S82263K-S82263R, S82264K-S82264R, S82265K-S82265R, S82266K-S82266R, S82291K-S82291R, S82292K-S82292R, S82299K-S82299R, S82301K-S82301R, S82302K-S82302R, S82309K-S82309R, S82311K-S82311P, S82312K-S82312P, S82319K-S82319P, S82391K-S82391R, S82392K-S82392R, S82399K-S82399R, S82401K-S82401R, S82402K-S82402R, S82409K-S82409R, S82421K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S82421R, S82422K-S82422R, S82423K-S82423R, S82424K-S82424R, S82425K-S82425R, S82426K-S82426R, S82431K-S82431R, S82432K-S82432R, S82433K-S82433R, S82434K-S82434R, S82435K-S82435R, S82436K-S82436R, S82441K-S82441R, S82442K-S82442R, S82443K-S82443R, S82444K-S82444R, S82445K-S82445R, S82446K-S82446R, S82451K-S82451R, S82452K-S82452R, S82453K-S82453R, S82454K-S82454R, S82455K-S82455R, S82456K-S82456R, S82461K-S82461R, S82462K-S82462R, S82463K-S82463R, S82464K-S82464R, S82465K-S82465R, S82466K-S82466R, S82491K-S82491R, S82492K-S82492R, S82499K-S82499R, S8251XK-S8251XR, S8252XK-S8252XR, S8253XK-S8253XR, S8254XK-S8254XR, S8255XK-S8255XR, <u>S8256XK-S8256XR</u> , <u>S8261XK-S8261XR</u> , <u>S8262XK-S8262XR</u> , S8263XK-S8263XR, S8264XK-S8264XR, S8265XK-S8265XR, S8266XK-S8266XR, S82811K-S82811P, S82812K-S82812P, S82819K-S82819P, S82821K-S82821P, S82822K-S82822P, S82829K-S82829P, S82831K-S82831R, S82832K-S82832R, S82839K-S82839R, S82841K-S82841R, S82842K-S82842R, S82843K-S82843R, S82844K-S82844R, S82845K-S82845R, S82846K-S82846R, S82851K-S82851R, S82852K-S82852R, S82853K-S82853R, S82854K-S82854R, S82855K-S82855R, S82856K-S82856R, S82861K-S82861R, S82862K-S82862R, S82863K-S82863R, S82864K-S82864R, S82865K-S82865R, S82866K-S82866R, S82871K-S82871R, S82872K-S82872R, S82873K-S82873R, S82874K-S82874R, S82875K-S82875R, S82876K-S82876R, S82891K-S82891R, S82892K-S82892R, S82899K-S82899R, S8290XK-S8290XR, S8291XK-S8291XR, S8292XK-S8292XR, S89001K-S89001P, S89002K-S89002P, S89009K-S89009P, S89011K-S89011P, S89012K-S89012P, S89019K-S89019P, S89021K-S89021P, S89022K-S89022P, S89029K-S89029P, S89031K-S89031P, S89032K-S89032P, S89039K-S89039P, S89041K-S89041P, S89042K-S89042P, S89049K-S89049P, S89091K-S89091P, S89092K-S89092P, S89099K-S89099P, S89101K-S89101P, S89102K-S89102P, S89109K-S89109P, S89111K-S89111P, S89112K-S89112P, S89119K-S89119P, S89121K-S89121P, S89122K-S89122P, S89129K-S89129P, S89131K-S89131P, S89132K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S89132P, S89139K-S89139P, S89141K-S89141P, S89142K-S89142P, S89149K-S89149P, S89191K-S89191P, S89192K-S89192P, S89199K-S89199P, S89201K-S89201P, S89202K-S89202P, S89209K-S89209P, S89211K-S89211P, S89212K-S89212P, S89219K-S89219P, S89221K-S89221P, S89222K-S89222P, S89229K-S89229P, S89291K-S89291P, S89292K-S89292P, S89299K-S89299P, S89301K-S89301P, S89302K-S89302P, S89309K-S89309P, S89311K-S89311P, S89312K-S89312P, S89319K-S89319P, S89321K-S89321P, S89322K-S89322P, S89329K-S89329P, S89391K-S89391P, S89392K-S89392P, S89399K-S89399P, S92001K-S92001P, S92002K-S92002P, S92009K-S92009P, S92011K-S92011P, S92012K-S92012P, S92013K-S92013P, S92014K-S92014P, S92015K-S92015P, S92016K-S92016P, S92021K-S92021P, S92022K-S92022P, S92023K-S92023P, S92024K-S92024P, S92025K-S92025P, S92026K-S92026P, S92031K-S92031P, S92032K-S92032P, S92033K-S92033P, S92034K-S92034P, S92035K-S92035P, S92036K-S92036P, S92041K-S92041P, S92042K-S92042P, S92043K-S92043P, S92044K-S92044P, S92045K-S92045P, S92046K-S92046P, S92051K-S92051P, S92052K-S92052P, S92053K-S92053P, S92054K-S92054P, S92055K-S92055P, S92056K-S92056P, S92061K-S92061P, S92062K-S92062P, S92063K-S92063P, S92064K-S92064P, S92065K-S92065P, S92066K-S92066P, S92101K-S92101P, S92102K-S92102P, S92109K-S92109P, S92111K-S92111P, S92112K-S92112P, S92113K-S92113P, S92114K-S92114P, S92115K-S92115P, S92116K-S92116P, S92121K-S92121P, S92122K-S92122P, S92123K-S92123P, S92124K-S92124P, S92125K-S92125P, S92126K-S92126P, S92131K-S92131P, S92132K-S92132P, S92133K-S92133P, S92134K-S92134P, S92135K-S92135P, S92136K-S92136P, S92141K-S92141P, S92142K-S92142P, S92143K-S92143P, S92144K-S92144P, S92145K-S92145P, S92146K-S92146P, S92151K-S92151P, S92152K-S92152P, S92153K-S92153P, S92154K-S92154P, S92155K-S92155P, S92156K-S92156P, S92191K-S92191P, S92192K-S92192P, S92199K-S92199P, S92201K-S92201P, S92202K-S92202P, S92209K-S92209P, S92211K-S92211P, S92212K-S92212P, S92213K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S92213P, S92214K-S92214P, S92215K-S92215P, S92216K-S92216P, S92221K-S92221P, S92222K-S92222P, S92223K-S92223P, S92224K-S92224P, S92225K-S92225P, S92226K-S92226P, S92231K-S92231P, S92232K-S92232P, S92233K-S92233P, S92234K-S92234P, S92235K-S92235P, S92236K-S92236P, S92241K-S92241P, S92242K-S92242P, S92243K-S92243P, S92244K-S92244P, S92245K-S92245P, S92246K-S92246P, S92251K-S92251P, S92252K-S92252P, S92253K-S92253P, S92254K-S92254P, S92255K-S92255P, S92256K-S92256P, S92301K-S92301P, S92302K-S92302P, S92309K-S92309P, S92311K-S92311P, S92312K-S92312P, S92313K-S92313P, S92314K-S92314P, S92315K-S92315P, S92316K-S92316P, S92321K-S92321P, S92322K-S92322P, S92323K-S92323P, S92324K-S92324P, S92325K-S92325P, S92326K-S92326P, S92331K-S92331P, S92332K-S92332P, S92333K-S92333P, S92334K-S92334P, S92335K-S92335P, S92336K-S92336P, S92341K-S92341P, S92342K-S92342P, S92343K-S92343P, S92344K-S92344P, S92345K-S92345P, S92346K-S92346P, S92351K-S92351P, S92352K-S92352P, S92353K-S92353P, S92354K-S92354P, S92355K-S92355P, S92356K-S92356P, S92401K-S92401P, S92402K-S92402P, S92403K-S92403P, S92404K-S92404P, S92405K-S92405P, S92406K-S92406P, S92411K-S92411P, S92412K-S92412P, S92413K-S92413P, S92414K-S92414P, S92415K-S92415P, S92416K-S92416P, S92421K-S92421P, S92422K-S92422P, S92423K-S92423P, S92424K-S92424P, S92425K-S92425P, S92426K-S92426P, S92491K-S92491P, S92492K-S92492P, S92499K-S92499P, S92501K-S92501P, S92502K-S92502P, S92503K-S92503P, S92504K-S92504P, S92505K-S92505P, S92506K-S92506P, S92511K-S92511P, S92512K-S92512P, S92513K-S92513P, S92514K-S92514P, S92515K-S92515P, S92516K-S92516P, S92521K-S92521P, S92522K-S92522P, S92523K-S92523P, S92524K-S92524P, S92525K-S92525P, S92526K-S92526P, S92531K-S92531P, S92532K-S92532P, S92533K-S92533P, S92534K-S92534P, S92535K-S92535P, S92536K-S92536P, S92591K-S92591P, S92592K-S92592P, S92599K-S92599P, S92811K-S92811P, S92812K-S92812P, S92819K-S92819P, S92901K-

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Condition Number	Condition	MEPS	MN APCD (ICD-9)	MN APCD (ICD-10)
				S92901P, S92902K-S92902P, S92909K-S92909P, S92911K-S92911P, S92912K-S92912P, S92919K-S92919P, S99001K-S99001P, S99002K-S99002P, S99009K-S99009P, S99011K-S99011P, S99012K-S99012P, S99019K-S99019P, S99021K-S99021P, S99022K-S99022P, S99029K-S99029P, S99031K-S99031P, S99032K-S99032P, S99039K-S99039P, S99041K-S99041P, S99042K-S99042P, S99049K-S99049P, S99091K-S99091P, S99092K-S99092P, S99099K-S99099P, S99101K-S99101P, S99102K-S99102P, S99109K-S99109P, S99111K-S99111P, S99112K-S99112P, S99119K-S99119P, S99121K-S99121P, S99122K-S99122P, S99129K-S99129P, S99131K-S99131P, S99132K-S99132P, S99139K-S99139P, S99141K-S99141P, S99142K-S99142P, S99149K-S99149P, S99191K-S99191P, S99192K-S99192P, S99199K-S99199P, S99201K-S99201P, S99202K-S99202P, S99209K-S99209P, S99211K-S99211P, S99212K-S99212P, S99219K-S99219P, S99221K-S99221P, S99222K-S99222P, S99229K-S99229P, S99231K-S99231P, S99232K-S99232P, S99239K-S99239P, S99241K-S99241P, S99242K-S99242P, S99249K