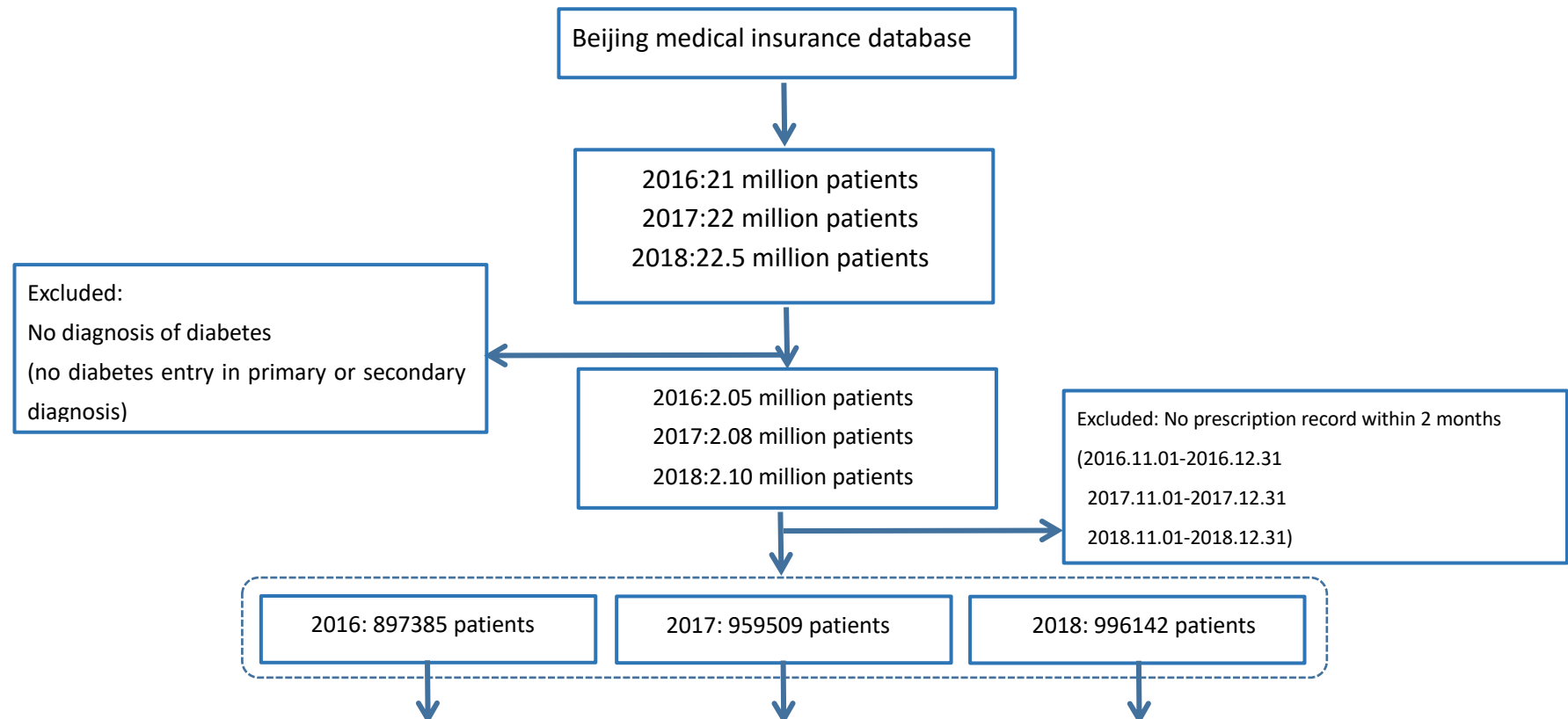
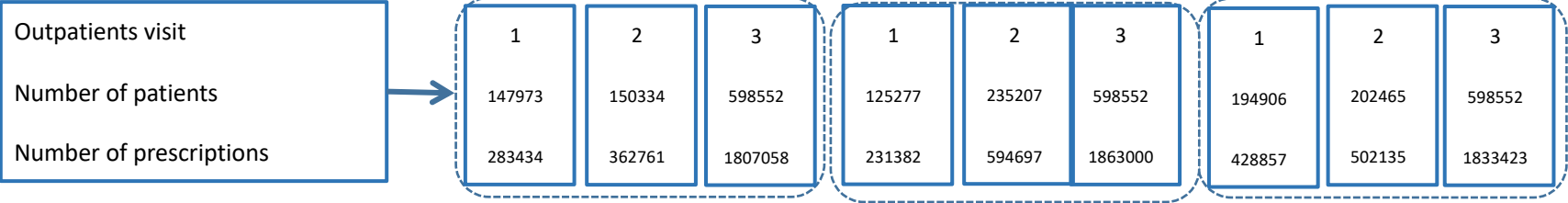


Supplemental materials for

Guo L, Zheng J, Pan Q, et al. Changes in direct medical cost and medications for managing diabetes in Beijing, China, 2016 to 2018: electronic insurance data analysis. *Ann Fam Med*. 2021;19(4):332-341.

Supplementary Table 1: Study patients enrollment flow chart.





Supplementary table 2: Patient characteristics

Variable		2016 (%)	2017(%)	2018(%)
Age group (yrs)	15-44	74143 (8.3)	79445 (8.3)	80607 (8.1)
	45-64	478648 (53.3)	502249 (52.3)	509763 (51.2)
	65-84	324163 (36.1)	353173 (36.8)	376781 (37.8)
	≥85	20431 (2.3)	24642 (2.6)	28991 (2.9)
Gender	Male	451426 (50.3)	490891 (51.2)	522061 (52.4)
	Female	445959 (49.7)	468618 (48.8)	474081 (47.6)
Hypertension (%)	Absent	346787 (38.6)	364598 (38.0)	385215 (38.7)
	Present	550598 (61.4)	594911 (62.0)	610927 (61.3)

Coronary heart disease(%)	Absent	455948 (50.8)	476704 (49.7)	509820 (51.2)
	Present	441437 (49.2)	482805 (50.3)	486322 (48.8)
Dyslipidemia(%)	Absent	494315 (55.1)	508980 (53.0)	520838 (52.3)
	Present	403070 (44.9)	450529 (47.0)	475304 (47.7)
Stroke(%)	Absent	697242 (77.7)	752101 (78.4)	799431 (80.3)
	Present	200143 (22.3)	207408 (21.6)	196711 (19.7)
Chronic lung disease(%)	Absent	729744 (81.3)	774554 (80.7)	820453 (82.4)
	Present	167641 (18.7)	184955 (19.3)	175689 (17.6)

Osteoporosis(%)	Absent	764817 (85.2)	818835 (85.3)	863163 (86.7)
	Present	132568 (14.8)	140674 (14.7)	132979 (13.3)
Diabetic peripheral neuropathy(%)	Absent	781886 (87.1)	835948 (87.1)	859986 (86.3)
	Present	115499 (12.9)	123561 (12.9)	136156 (13.7)
Diabetic nephropathy(%)	Absent	854306 (95.2)	918730 (95.8)	959251 (96.3)
	Present	43079 (4.8)	40779 (4.2)	36891 (3.7)
Diabetic retinopathy(%)	Absent	855488 (95.3)	916120 (95.5)	954401 (95.8)
	Present	41897 (4.7)	43389 (4.5)	41741 (4.2)

Supplementary table 3. Change and Cost of medication of the same cohort in 3-year period

Change / cost of medication	Total	2016	2017	2018	AI2017	Percentage change	AI2018	Percentage change
Total number of drugs	4.033	4.276	4.016	3.808	-0.26	-6.08	-0.468	-10.94
Antiglycemic drugs	1.769	1.840	1.750	1.716	-0.09	-4.89	-0.124	-6.74
Nonantiglycemic drugs	2.265	2.436	2.267	2.092	-0.169	-6.94	-0.344	-14.12
Consolidated disease	5.067	4.995	5.139	5.067	0.144	2.88	0.072	1.44
Glycemic Disease	1.291	1.289	1.290	1.294	0.001	0.08	0.005	0.39
Non-glycemic Disease	3.776	3.706	3.849	3.773	0.143	3.86	0.067	1.81

Total cost of the medication	6692.725	7587.841	6332.926	6157.408	-1254.92	-16.54	-1430.43	-18.85
Antiglycaemic drugs(yuan)	3853.011	4218.121	3678.306	3662.606	-539.815	-12.80	-555.515	-13.17
Nonantiglycaemic drugs(yuan)	2839.714	3369.719	2654.620	2494.801	-715.099	-21.22	-874.918	-25.96
Combined medication cost/number of drug(yuan)	1683.845	1801.582	1604.731	1644.069	-196.851	-10.93	-157.513	-8.74
Cost/drug of Anti glycemic(yuan)	2176.937	2287.998	2105.780	2132.726	-182.218	-7.96	-155.272	-6.79
Cost/drug of Non anti-glycemic(yuan)	1215.962	1345.645	1139.508	1160.731	-206.137	-15.32	-184.914	-13.74

Supplementary Table 4. Prices of commonly used drugs.

Drugs	2016(yuan)	2017(yuan)	2018(yuan)
Acarbose	71.2	61.92	61.92
Metformin	29.2	23.13	23.13
Glimepiride	77.78	64.31	64.31
Repaglinide	72.13	57.38	57.38
Pioglitazone	25.99	19.48	19.48
Sitagliptin		103.89	103.89
Clopidogrel	132.67	108.29	108.29
Atorvastatin	70.72	55.5	55.5
Metoprolol	18.49	14.82	14.82
Amlodipine	32.64	29.88	29.88
Losartan	45.81	37.94	37.94
Fosinopril	45.93	38.26	38.26
Rabeprazole	61.83	44.33	44.33
Calcium dobesilate	53.22	34.59	34.59

Supple Table 5. Three-year changes in diabetes treatment regimens

	Medications	2016- N (%)	2017-N (%)	2018-N (%)
Receiving any diabetes drug	No	122875 (13.7)	147518 (15.4)	152515 (15.3)
	Yes	774510 (86.3)	811991 (84.6)	843627 (84.7)
Monotherapy	Yes	311883 (34.8)	342200 (35.7)	360083 (36.1)
α-glucosidase inhibitors	Yes	111187 (12.4)	125991 (13.1)	130552 (13.1)
Metformin	Yes	94167 (10.5)	105315 (11.0)	115977 (11.6)

sulfonylureas	Yes	30419 (3.4)	35282 (3.7)	34989 (3.5)
Premixed insulin	Yes	45604 (5.1)	39268 (4.1)	39268 (4.1)
DPP-4i	Yes	0 (0.0)	3255 (0.3)	10121 (1.0)
Glinides	Yes	9982 (1.1)	10457 (1.1)	10030 (1.0)
Oral combination therapy	Yes	356814 (39.8)	365291 (38.1)	382845 (38.4)
α-glucosidase+ Metformin	Yes	69895 (7.8)	76389 (8.0)	82542 (8.3)
α-glucosidase+ sulfonylureas	Yes	52447 (5.8)	50059 (5.2)	45846 (4.6)
Metformin+ sulfonylureas	Yes	46450 (5.2)	43423 (4.5)	40631 (4.1)

α-glucosidase+Metformin+ sulfonylureas	Yes	45514 (5.1)	39589 (4.1)	36041 (3.6)
Metformin+ DPP-4i	Yes	0 (0.0)	4517 (0.5)	12262 (1.2)
Metformin+ Glinides	Yes	12252 (1.4)	10844 (1.1)	9617 (1.0)
α-glucosidase+ Glinides	Yes	10441 (1.2)	10194 (1.1)	9272 (0.9)
Oral+ insulin combination therapy	Yes	164416 (18.3)	165568 (17.3)	161895 (16.3)
α-glucosidase+Premixed insulin	Yes	34048 (3.8)	31670 (3.3)	27627 (2.8)
α-glucosidase+ Metformin+ Premixed insulin	Yes	18024 (2.0)	17949 (1.9)	16167 (1.6)
Metformin+Premixed insulin	Yes	18408 (2.1)	16749 (1.7)	14689 (1.5)