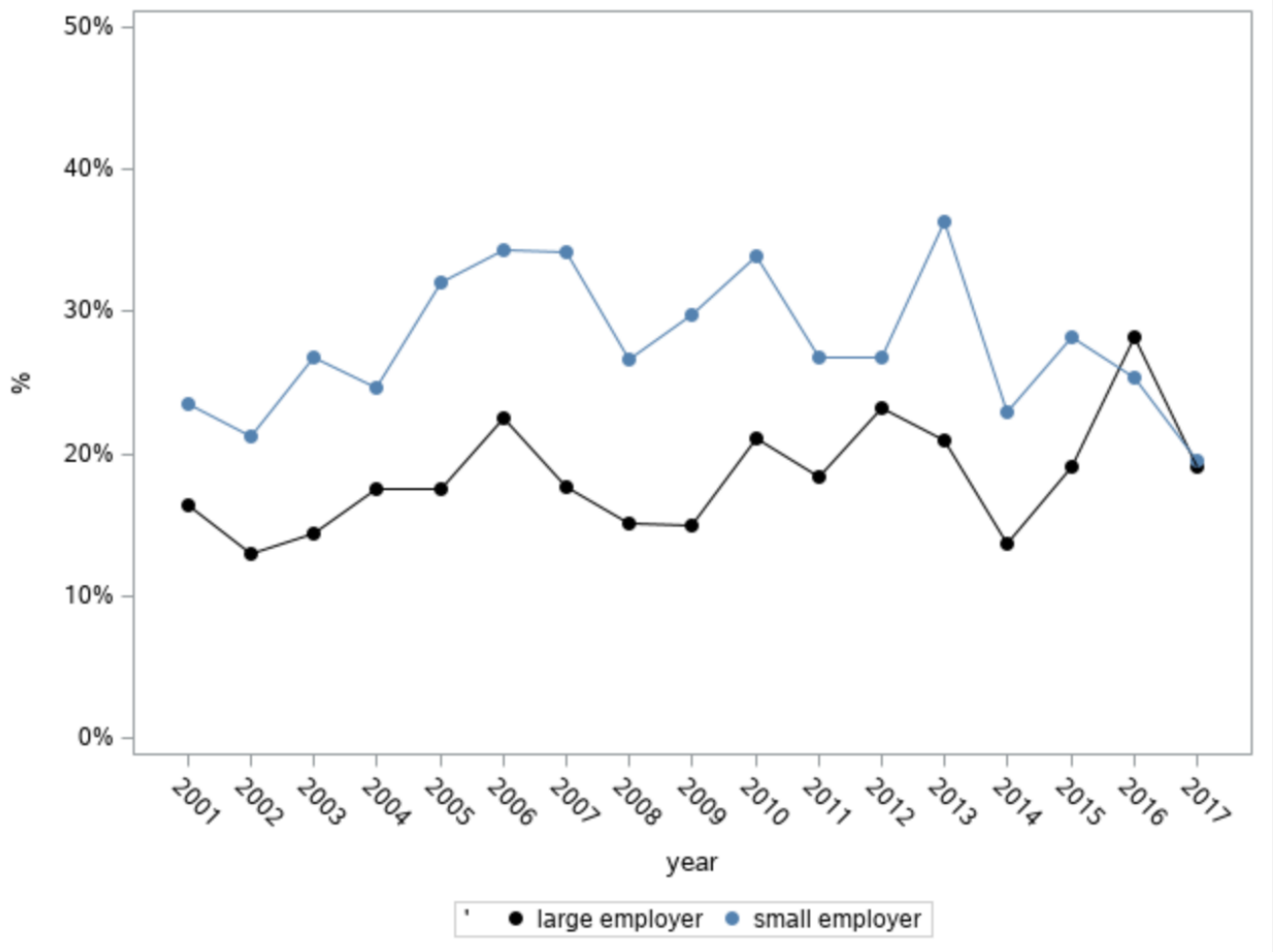
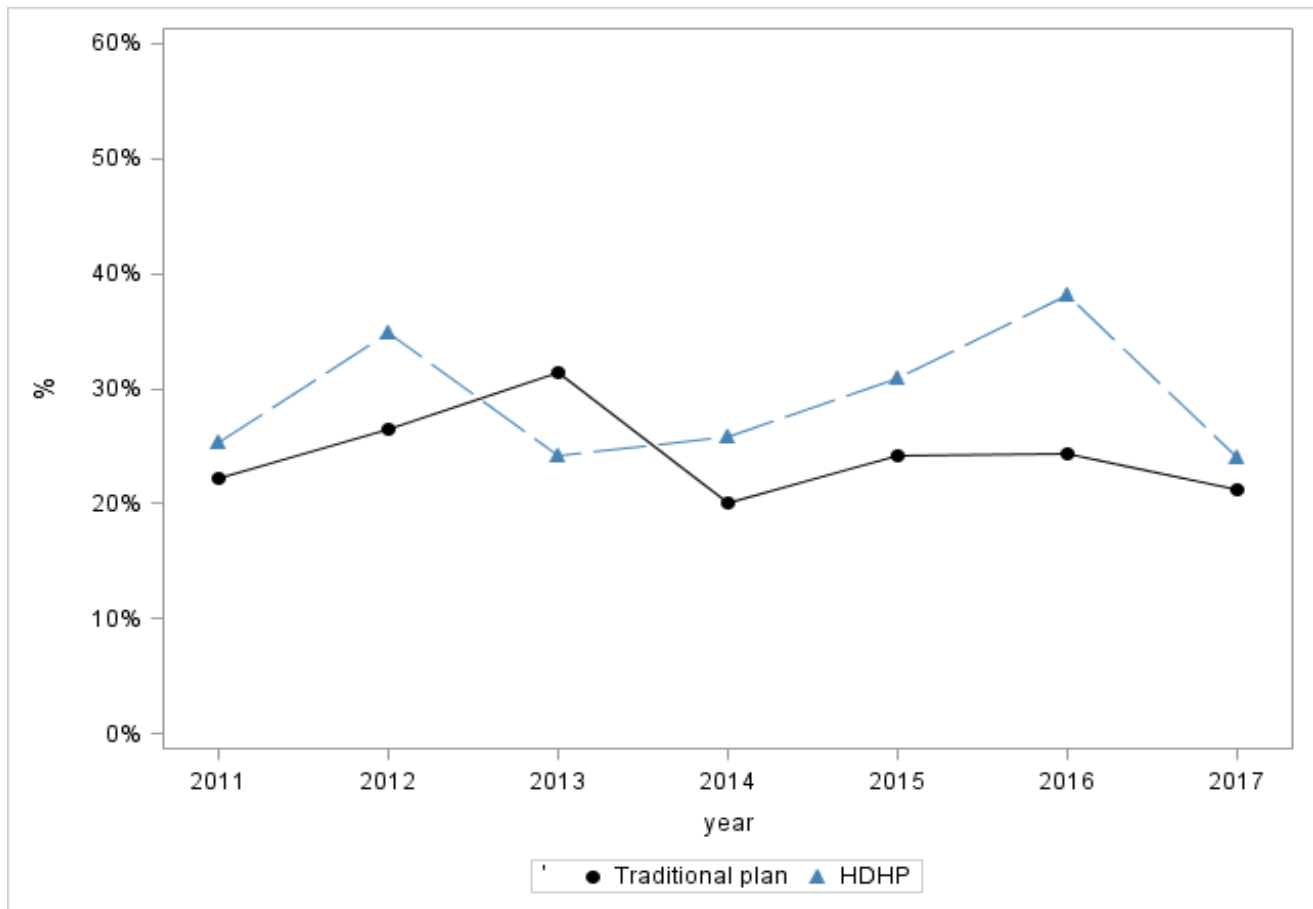


Supplemental Figure 1. Trend in high out-of-pocket cost burden rate* by employer size, 2001-2017



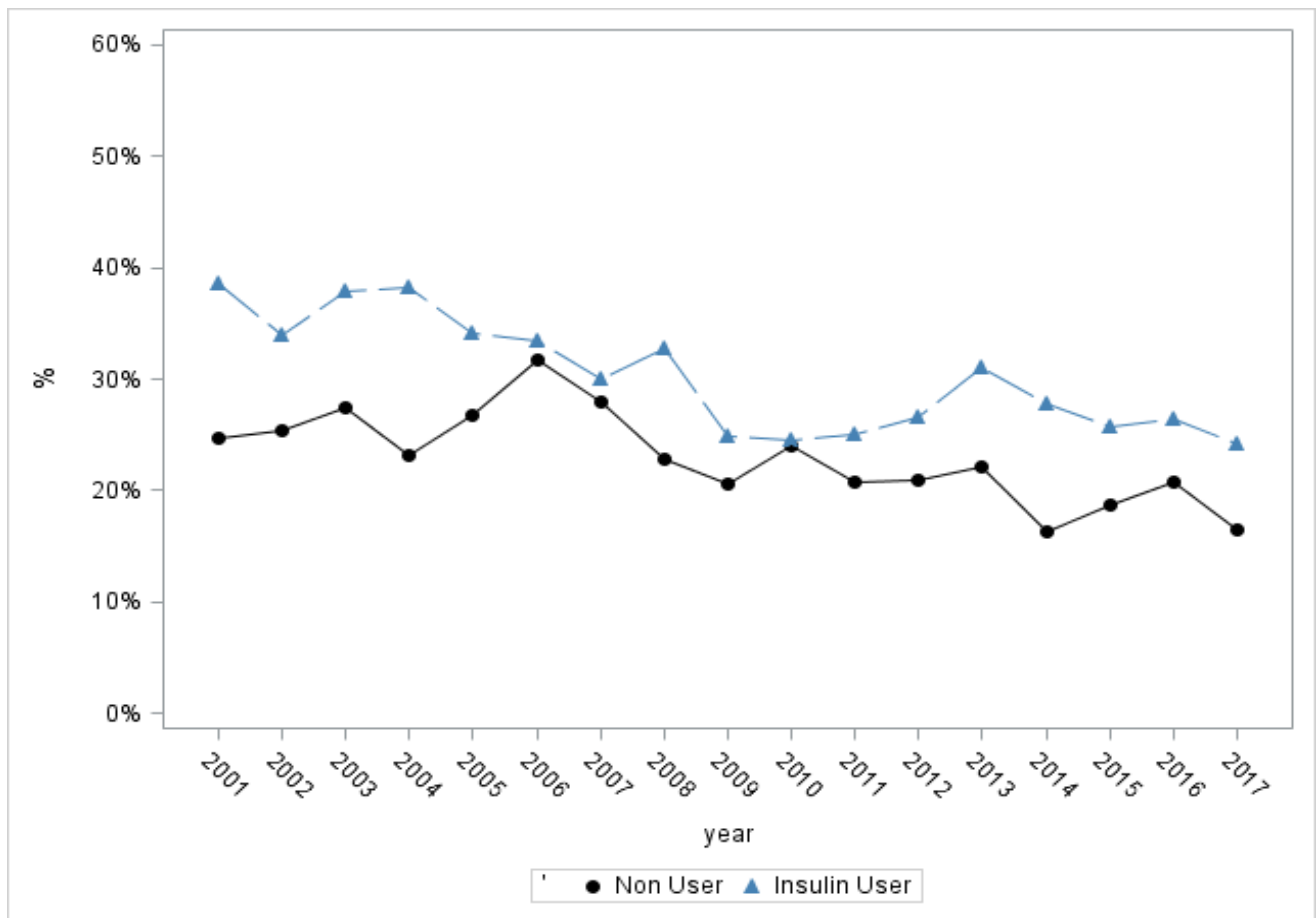
*High out-of-pocket (OOP) cost rate: percentage of patients living in a family with OOP costs exceeding 10% of family income.

Supplemental Figure 2. Trends in high out-of-pocket cost burden rate* by health plan type (traditional plan versus high deductible health plan (HDHP)) among those with private insurance, 2011-2017



*High out-of-pocket (OOP) cost rate: percentage of patients living in a family with OOP costs exceeding 10% of family income.

Supplemental Figure 3. Trend in high out-of-pocket cost burden rate* by insulin use, 2001-2017



*High out-of-pocket (OOP) cost rate: percentage of patients living in a family with OOP costs exceeding 10% of family income.

Supplemental Table 1. Mean Annual Family Out-of-pocket (OOP) Expenditures by Insurance Type among People with Diabetes

	Sample Size	Annual family income	Annual OOP family premium [‡]	Annual family OOP cost [*]					Individual OOP cost of people with diabetes [†]
				All health care service	Prescription drugs	Inpatient care	Outpatient care	Other care	
	n	Mean, \$	Mean, \$	Mean (SD), \$					
Overall									
2001	959	70133	1504	2783(134)	1610(95)	124(22)	491(38)	558(51)	1754(88)
2002	1165	73171	1480	2713(109)	1531(80)	101(26)	551(38)	530(53)	1790(89)
2003	1007	68205	1821	2948(114)	1851(81)	76(18)	483(43)	539(48)	1935(81)
2004	1107	68866	1903	2740(114)	1650(95)	92(33)	434(28)	564(50)	1716(78)
2005	1165	65261	1746	2577(105)	1555(72)	86(22)	477(34)	459(46)	1617(82)
2006	1301	67822	1822	2942(136)	1679(76)	173(58)	562(42)	528(43)	1863(91)
2007	1202	69732	1848	2658(126)	1300(55)	96(22)	543(45)	719(66)	1589(72)
2008	1431	68034	1794	2432(120)	1173(73)	109(19)	607(55)	543(47)	1556(92)
2009	1429	65980	1809	2022(97)	918(65)	133(27)	483(34)	488(45)	1297(81)
2010	1345	66134	2075	1866(74)	930(44)	98(19)	429(26)	409(33)	1227(54)
2011	1488	66452	1962	1950(83)	996(45)	106(35)	447(30)	400(38)	1301(67)
2012	1551	65294	2035	2024(108)	978(66)	130(24)	436(31)	480(43)	1261(82)
2013	1557	67019	2192	2046(111)	875(53)	125(49)	532(42)	514(44)	1318(90)
2014	1489	64309	1911	1656(74)	670(38)	100(20)	483(31)	403(34)	1029(53)
2015	1519	65350	2003	1768(84)	772(44)	87(20)	463(37)	446(37)	1082(53)
2016	1535	70202	2449	1792(95)	780(70)	46(8)	502(34)	464(41)	1105(73)
2017	1444	71628	2228	1887(126)	717(65)	107(25)	496(38)	568(69)	1110(71)
Privately insured									
2001	566	85492	2062	2521(123)	1291(73)	85(18)	539(47)	606(66)	1451(87)
2002	634	94033	2018	2585(96)	1290(58)	70(15)	619(46)	605(73)	1563(81)
2003	501	84825	2525	2852(141)	1521(78)	75(23)	595(61)	660(67)	1753(96)
2004	564	87996	2788	2903(146)	1594(122)	73(18)	525(31)	711(70)	1671(87)
2005	564	82748	2585	2822(140)	1571(99)	87(26)	590(45)	574(67)	1720(119)
2006	646	85716	2711	3238(190)	1640(95)	225(93)	710(63)	664(66)	1927(127)
2007	647	86602	2617	2839(169)	1294(70)	83(15)	644(58)	818(96)	1649(96)
2008	774	86250	2717	2544(156)	1085(84)	103(22)	760(80)	596(57)	1535(114)
2009	707	84781	2833	2275(106)	980(48)	117(27)	585(43)	593(66)	1323(73)
2010	646	85932	3298	2205(98)	1010(47)	89(18)	559(37)	547(53)	1369(70)
2011	710	86804	3039	2164(100)	1049(55)	74(17)	564(45)	477(43)	1376(70)
2012	707	87068	3343	2424(155)	1131(102)	171(40)	567(41)	554(54)	1454(133)
2013	698	86092	3527	2431(150)	1001(72)	94(24)	711(64)	626(75)	1471(103)
2014	665	88119	3112	2027(101)	786(51)	96(22)	605(42)	540(52)	1199(72)
2015	670	86795	3245	2321(135)	943(72)	124(38)	653(60)	600(61)	1351(83)
2016	688	90359	3835	2305(138)	949(99)	54(13)	686(54)	615(66)	1406(111)
2017	660	98330	3555	2400(184)	804(80)	146(42)	687(53)	763(116)	1415(106)
Publicly insured									
2001	247	38981	604	3325(294)	2343(203)	128(48)	328(50)	527(104)	2306(171)
2002	351	36130	660	2815(276)	1935(230)	128(16)	347(67)	404(73)	2097(212)
2003	361	36949	828	3005(207)	2427(200)	63(28)	212(31)	302(70)	2190(141)
2004	381	35535	438	2189(163)	1656(136)	33(13)	197(27)	302(45)	1554(134)
2005	418	37250	517	2084(133)	1506(90)	78(48)	206(34)	293(62)	1376(96)

2006	441	39460	470	2199(132)	1542(102)	80(22)	266(26)	311(44)	1558(93)
2007	363	36905	663	1983(175)	1074(85)	106(72)	257(39)	546(76)	1308(110)
2008	402	34962	451	1934(208)	1042(104)	37(13)	323(62)	532(108)	1272(156)
2009	448	35937	452	1552(254)	809(217)	79(26)	347(79)	317(57)	1127(246)
2010	442	39715	521	1289(126)	800(95)	44(15)	248(45)	198(31)	943(102)
2011	481	36375	676	1557(142)	925(92)	43(15)	281(48)	308(92)	1129(121)
2012	537	36159	495	1308(125)	716(75)	81(19)	238(44)	274(44)	843(75)
2013	575	40900	434	1436(209)	628(97)	222(158)	253(49)	333(57)	1065(204)
2014	603	32910	429	1080(103)	440(50)	118(46)	319(55)	202(36)	724(82)
2015	645	37081	510	1060(96)	532(58)	32(12)	236(41)	260(40)	717(68)
2016	647	42423	562	916(96)	423(55)	33(9)	220(33)	240(37)	608(73)
2017	646	37109	542	1179(117)	566(85)	50(17)	249(33)	314(46)	667(69)
Uninsured									
2001	146	48493	242	3128(385)	1881(267)	335(136)	561(102)	350(74)	2314(316)
2002	180	41680	398	3162(277)	1945(187)	206(104)	614(103)	397(94)	2325(226)
2003	145	55544	443	3342(287)	2212(240)	112(21)	548(91)	471(80)	2298(195)
2004	162	39986	368	3172(366)	1970(234)	360(284)	490(102)	352(52)	2397(331)
2005	183	43626	414	2532(228)	1595(127)	99(43)	565(131)	273(54)	1681(151)
2006	214	39917	300	3112(289)	2197(237)	118(27)	472(73)	325(42)	2234(180)
2007	192	51977	432	3097(350)	1766(178)	141(64)	611(164)	579(115)	1845(191)
2008	255	48332	193	2845(292)	1791(240)	267(106)	455(122)	332(64)	2166(275)
2009	274	45193	203	1853(232)	865(120)	284(143)	328(46)	376(77)	1487(201)
2010	257	41203	384	1679(187)	875(112)	236(117)	281(38)	287(55)	1230(172)
2011	297	49919	440	1937(249)	943(101)	367(222)	337(35)	290(53)	1372(237)
2012	307	46273	411	2089(191)	976(146)	79(25)	375(63)	659(100)	1460(160)
2013	284	44898	495	1769(194)	881(138)	46(16)	398(62)	443(95)	1231(181)
2014	221	40611	412	1545(204)	787(152)	61(27)	369(57)	328(64)	1106(178)
2015	204	51661	692	1347(215)	712(167)	87(38)	257(39)	291(65)	940(186)
2016	200	47369	802	1789(333)	1011(309)	46(14)	385(74)	347(70)	1041(130)
2017	138	44958	755	1603(114)	824(62)	101(8)	303(31)	375(78)	1058(77)

*Family OOP health care expenditures in a family with at least one person with diabetes.

†Individual OOP health care costs for that person with diabetes.

‡The premium cost was calculated as the premium paid by all members of the family. The small positive premium for the uninsured persons with diabetes was the premium paid by some family members who had private insurances. but this private insurance did not cover the person with diabetes.

Supplemental Table 2. Mean Annual Family Out-of-pocket (OOP) Expenditures by Income Level among People with Diabetes

	Sample Size	Annual family income	Annual OOP family premium [‡]	All health care service	Annual family OOP cost [*]				Individual OOP Cost of people with diabetes [†]
					Prescription drugs	Inpatient care	Outpatient care	Other care	
	n	Mean, \$	Mean, \$		Mean (SD), \$				
Near Poor and Poor									
2001	207	12720	393	2406(226)	1627(156)	191(84)	262(28)	325(87)	2031(208)
2002	298	14409	379	2306(165)	1554(125)	45(22)	291(67)	416(97)	1795(152)
2003	281	13483	425	2444(181)	1997(165)	55(22)	194(23)	198(15)	1803(162)
2004	338	12630	389	2269(257)	1629(187)	207(151)	191(33)	242(47)	1802(239)
2005	349	14044	463	1897(133)	1386(95)	55(26)	250(49)	206(43)	1406(104)
2006	384	13380	240	2333(235)	1490(93)	247(114)	277(42)	319(97)	1754(187)
2007	307	13776	347	1663(151)	1065(95)	35(11)	199(32)	364(95)	1159(96)
2008	360	12948	612	1670(135)	926(103)	149(46)	288(35)	306(54)	1176(114)
2009	396	11637	398	1486(288)	850(256)	84(30)	310(73)	242(49)	1256(285)
2010	389	13258	497	1208(131)	687(70)	122(72)	199(38)	200(39)	929(104)
2011	455	11773	415	1283(131)	842(112)	106(32)	200(27)	135(23)	1012(102)
2012	488	13304	410	1045(136)	568(90)	48(13)	189(62)	239(42)	831(119)
2013	500	13348	178	923(116)	496(85)	83(33)	168(33)	176(29)	693(101)
2014	476	13009	257	844(111)	404(67)	47(31)	214(45)	179(42)	623(98)
2015	458	12662	196	687(79)	350(48)	43(29)	147(31)	148(36)	539(73)
2016	477	12661	433	968(125)	470(104)	28(9)	252(47)	218(44)	776(121)
2017	435	11963	277	1003(155)	541(127)	49(27)	235(20)	178(25)	681(88)
Low income									
2001	149	31082	947	3289(526)	2251(393)	121(54)	416(87)	501(133)	2118(280)
2002	198	33539	1089	3271(444)	2222(342)	195(94)	419(51)	436(89)	2216(297)
2003	190	33760	1049	3088(366)	2323(347)	57(21)	385(83)	324(101)	2149(256)
2004	182	32783	1423	2816(377)	2071(337)	55(26)	329(46)	362(60)	1757(161)
2005	195	32689	970	1960(168)	1456(138)	32(13)	271(54)	202(52)	1441(133)
2006	222	33094	1377	2905(337)	1928(269)	79(30)	522(107)	376(59)	1906(202)
2007	203	34057	1298	2407(202)	1358(126)	173(71)	406(57)	469(101)	1501(158)
2008	250	32927	1369	2336(279)	1223(143)	98(79)	541(111)	473(141)	1587(238)
2009	241	30815	996	1682(190)	773(90)	69(33)	427(118)	413(93)	1146(146)
2010	207	32405	1570	1731(237)	994(184)	102(63)	280(40)	355(90)	1173(193)
2011	254	34432	1398	1669(158)	904(112)	76(41)	373(48)	316(60)	1061(98)
2012	265	32309	1317	2072(243)	1004(113)	132(58)	357(62)	579(205)	1290(202)
2013	248	31846	1390	2012(376)	1115(226)	31(14)	578(165)	289(51)	1218(247)
2014	294	32124	950	1288(155)	594(89)	126(61)	353(70)	216(47)	833(122)
2015	276	30818	1075	1460(196)	745(141)	93(64)	322(75)	300(50)	1056(160)
2016	266	30106	1276	1317(178)	635(134)	46(17)	324(58)	313(73)	947(127)

2017	237	31068	1014	1524(162)	695(108)	114(18)	366(53)	350(107)	974(88)
Middle Income									
2001	312	59223	1746	2630(186)	1558(148)	125(29)	453(47)	494(67)	1586(133)
2002	342	59834	1752	2430(158)	1341(99)	129(68)	523(67)	437(50)	1604(140)
2003	276	58259	1957	3008(202)	1866(139)	135(50)	520(69)	487(57)	1936(159)
2004	295	54996	1996	2637(150)	1612(106)	69(27)	511(57)	446(57)	1613(106)
2005	339	54822	1753	2692(146)	1609(113)	70(20)	495(48)	519(72)	1635(125)
2006	363	56138	2086	2826(229)	1569(119)	250(172)	576(73)	431(50)	1725(117)
2007	359	56376	2320	2642(217)	1365(94)	76(22)	607(98)	595(116)	1621(148)
2008	442	55772	1719	2629(216)	1319(116)	90(25)	689(118)	530(89)	1738(167)
2009	430	55151	2005	2092(163)	863(66)	286(90)	482(54)	461(73)	1299(119)
2010	415	56268	2209	1869(112)	993(72)	56(23)	455(46)	365(52)	1152(73)
2011	413	56280	2155	2011(155)	961(67)	156(109)	450(49)	444(66)	1259(126)
2012	449	55549	2097	1933(130)	851(58)	146(46)	424(40)	512(73)	1276(94)
2013	454	58528	2341	2284(230)	886(87)	232(156)	521(62)	645(121)	1514(212)
2014	415	57634	2169	1771(131)	775(79)	96(29)	477(54)	424(59)	1208(102)
2015	448	56725	2508	1810(128)	841(66)	66(20)	466(59)	437(56)	1144(90)
2016	413	58195	2353	1986(244)	940(189)	64(17)	388(53)	594(122)	1062(178)
2017	393	59362	2334	2006(249)	764(132)	152(68)	481(45)	609(171)	1088(122)
High Income									
2001	291	120903	2048	2913(192)	1418(113)	91(31)	660(78)	494(67)	1627(126)
2002	327	128896	1997	2938(151)	1410(99)	75(24)	759(79)	437(50)	1773(127)
2003	260	119269	2741	3090(198)	1560(100)	43(18)	638(74)	487(57)	1907(153)
2004	292	124520	2852	3046(190)	1526(116)	62(16)	549(51)	446(57)	1730(130)
2005	282	117842	2791	3102(229)	1643(155)	139(45)	672(75)	519(72)	1791(183)
2006	332	122210	2689	3411(195)	1792(122)	100(25)	731(84)	431(50)	2028(135)
2007	333	123293	2429	3287(259)	1348(99)	121(52)	717(75)	595(116)	1820(126)
2008	379	124662	2706	2733(223)	1164(144)	107(34)	745(100)	530(89)	1602(159)
2009	362	123233	2863	2439(141)	1064(65)	65(19)	615(48)	461(73)	1384(104)
2010	334	119458	3108	2314(126)	1000(68)	117(26)	605(53)	365(52)	1492(97)
2011	366	122723	3033	2444(173)	1161(78)	77(22)	636(63)	444(66)	1615(145)
2012	349	127707	3480	2795(218)	1386(165)	172(46)	663(64)	512(73)	1543(164)
2013	355	123082	3670	2563(154)	1007(95)	96(31)	754(68)	645(121)	1583(119)
2014	304	121527	3342	2319(150)	814(62)	128(42)	741(68)	424(59)	1271(100)
2015	337	124178	3189	2591(177)	1000(99)	132(46)	736(82)	437(56)	1395(108)
2016	379	122833	4001	2271(151)	892(92)	44(14)	771(70)	594(122)	1364(109)
2017	379	130557	3753	2458(178)	794(86)	106(28)	708(73)	609(171)	1431(118)

* Family out of pocket expenditure in a family with at least one person with diabetes

† Individual OOP cost for that person with diabetes.

‡ The premium cost was calculated as the premium paid by all members of the family. The small positive premium for the uninsured persons with diabetes was the premium paid by some family members who had private insurances. but this private insurance did not cover the person with diabetes.