

**Medicaid Analytic Extract  
Provider Characteristics (MAXPC)**

**State-Specific Validation Tables,  
2011**

June 28, 2013

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## ACRONYMS

CMS	Centers for Medicare & Medicaid Services
CY	Calendar year
FY	Federal fiscal year
HIPAA	Health Insurance Portability and Accountability Act
ID	Identification/identifier
IP	Inpatient
LT	Long-term care
MAX	Medicaid Analytic Extract
MAXPC	MAX Provider Characteristics File
MSIS	Medicaid Statistical Information System
NPI	National Provider Identifier
NPPES	National Plan and Provider Enumeration System
OT	Other services
RX	Drug
UPIN	Unique Physician Identification Number

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## INTRODUCTION

The Medicaid Statistical Information System (MSIS) files and the corresponding research-friendly Medicaid Analytic Extract (MAX) files support a wide range of studies on Medicaid enrollment, service use, and expenditures. There is currently considerable interest at the Centers for Medicare & Medicaid Services (CMS) in also examining health reform proposals, program integrity, and access-to-care issues among certain types of Medicaid providers. However, it has not been possible to easily conduct provider-based research activities because the provider identification numbers collected in MSIS are largely unedited, undocumented, and state specific.

The advent of the Health Insurance Portability and Accountability Act (HIPAA) mandated covered entities such as health care providers, health plans, and health care clearinghouses to obtain and use a National Provider Identifier (NPI) in all administrative and financial HIPAA transactions.<sup>1</sup> The NPI is a unique 10-digit, sequentially assigned national identification number, unstructured so as not to carry any way information such as the state or medical specialty of the health care provider who “owns” the identifier. Beginning in February 2009, states were required to include NPIs on claims submitted to MSIS. The main limitation of this identifier, however, is that certain classes of nonmedical providers are not required to obtain an NPI. Nonetheless, the availability of the NPI on MSIS claims makes the development of a uniform provider characteristic file more feasible. The MAX Provider Characteristics (MAXPC) file is such a file.

Once the state’s MAXPC file is created, validation tables are produced. Validation tables are designed as a diagnostic tool to determine whether linkages are working in the expected manner and consist of a set of seven tables. The first six tables focus on provider ID types in the IP, LT, OT, and RX files. These provider types are: IP billing, LT billing, OT servicing, OT billing, RX billing, and RX prescribing provider IDs. The seventh table examines all provider IDs in all of the files. Each file-specific validation table is used to detect linkage issues that are peculiar to a given file type. The all-provider table is used to monitor the overall quality of the linkages of all provider IDs. The design of the validation tables is very similar across file types. The measures are grouped into seven sections as denoted by the shaded rows. The first section describes measures for each unique provider in the file. The second section focuses on the source of NPIs. The third section focuses on provider IDs that link to NPPES, followed by a section for provider IDs that link to state provider files. The fifth section focuses on the primary taxonomy of providers that link to NPPES. Among providers, taxonomies are classified into two groups: (1) individuals or groups of individuals, and (2) nonindividuals. The sixth section focuses on individual providers showing their sole proprietorship status. Finally, the seventh section focuses on provider organizations and their ownership status.

The columns in the state-specific tables describe the annual statistics for up to three years, followed by a column describing the percentage change between year one and year two, the percentage change between year two and year three, if applicable, followed by the expected

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<sup>1</sup> CMS. “National Provider Identifier (NPI) Overview.” Available at <http://www.cms.gov/nationalProvIdentstand/>.

range of values across years, and finally, an indicator showing whether the percentage change between the two most recent years being compared is within the expected range.

The primary source of data used in the MAXPC 2011 files were the MSIS Valid claims files. The following measures in the MAXPC file were derived from original, unadjusted claims:

- Number of IP Claims for Provider
- Number of Beneficiaries with IP Claims for Provider
- Number of LT Claims for Provider
- Number of Beneficiaries with LT Claims for Provider
- Number of OT Claims for Provider
- Number of Beneficiaries with OT Claims for Provider
- Number of RX Claims for provider
- Number of Beneficiaries with RX Claims for Provider.

2009-2011 MAX IP Billing Provider Characteristics Validation Table  
 State: MO  
 Produced: 05/20/2013

Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>IP Providers</b>								
Number of provider IDs	896	913	874	1.90	-4.27	30% (+/-)	Yes	Yes
% billing provider on IP claim	52.3	54.8	54.9	4.63	0.28	N/A	N/A	N/A
% NPI billing provider on IP claim	47.7	45.2	45.1	-5.08	-0.34	N/A	N/A	N/A
% also a provider on LT claim	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
% also a provider on OT claim	91.6	90.6	91.9	-1.14	1.43	N/A	N/A	N/A
% also a provider on RX claim	49.1	46.2	47.5	-5.88	2.73	N/A	N/A	N/A
% provider IDs with NPI	83.3	69.3	69.2	-16.73	-0.16	30% (+/-)	Yes	Yes
% provider IDs linked to NPPES	81.6	63.9	65.0	-21.73	1.78	30% (+/-)	Yes	Yes
% provider IDs with or without NPI but linked to state provider file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
average number of IP claims	322.3	441.1	436.5	36.85	-1.02	30% (+/-)	No	Yes
average number of beneficiaries with IP claims	237.2	339.8	332.7	43.28	-2.11	30% (+/-)	No	Yes
<b>Provider IDs with NPI</b>								
Number of provider IDs with NPI	746	633	605	-15.15	-4.42	30% (+/-)	Yes	Yes
% NPI source = MSIS	94.9	79.9	80.7	-15.77	0.91	30% (+/-)	Yes	Yes
% NPI source = NPPES	5.1	20.1	19.3	293.86	-3.61	30% (+/-)	No	Yes
% NPI source = state cross-reference file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs Linked to NPPES</b>								
Number of provider IDs linked to NPPES	731	583	568	-20.25	-2.57	30% (+/-)	Yes	Yes
% linked via NPI	94.8	78.2	79.4	-17.50	1.52	30% (+/-)	Yes	Yes
% linked via Medicaid legacy provider ID	5.2	21.8	20.6	319.08	-5.44	30% (+/-)	No	Yes
% linked via Medicare UPIN	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% with name prefix	3.6	3.8	3.5	6.10	-6.70	30% (+/-)	Yes	Yes
% with first name	5.7	7.0	5.5	22.40	-22.40	30% (+/-)	Yes	Yes
% with middle name	5.1	6.3	4.8	25.37	-25.09	30% (+/-)	Yes	Yes
% with last name	5.7	7.0	5.5	22.40	-22.40	30% (+/-)	Yes	Yes
% with name suffix	0.3	0.5	0.4	87.96	-31.63	30% (+/-)	Yes	Yes
% male	4.8	6.2	4.9	28.97	-20.17	30% (+/-)	Yes	Yes
% female	1.0	0.9	0.5	-10.44	-38.44	30% (+/-)	Yes	Yes
% with credential	5.5	6.9	5.5	25.38	-20.45	30% (+/-)	Yes	Yes
% with business name	94.3	92.5	94.2	-1.91	1.88	30% (+/-)	Yes	Yes
% with address line 1	100.0	99.5	99.6	-0.52	0.16	30% (+/-)	Yes	Yes
% with city	100.0	99.5	99.6	-0.52	0.16	30% (+/-)	Yes	Yes
% with state	100.0	99.5	99.6	-0.52	0.16	30% (+/-)	Yes	Yes
% state = IP state code	69.9	73.8	71.8	5.51	-2.61	30% (+/-)	Yes	Yes
% with zip code	100.0	99.5	99.6	-0.52	0.16	30% (+/-)	Yes	Yes
% with primary taxonomy	99.3	99.1	98.9	-0.18	-0.20	30% (+/-)	Yes	Yes
% with provider entity type = individual	5.7	7.0	5.5	22.40	-22.40	30% (+/-)	Yes	Yes
% with provider entity type = organization	94.3	92.5	94.2	-1.91	1.88	30% (+/-)	Yes	Yes
<b>Provider IDs with or without NPI but linked to state provider file</b>								
Number of provider IDs with or without NPI linked to state provider file	0	0	0	Div by 0	Div by 0	N/A	N/A	N/A

Source: Medicaid Analytic eXtract (MAX) Provider Characteristics Files, 2009-2011.

a "Yes" signifies that either (1) the percent change between 2009 and 2010 is within the cross-year expected range or (2) both the 2009 and the 2010 values are less than 10. "No" signifies that both (1) the percent change between 2009 and 2010 is over or under the cross-year expected range and (2) either the 2009 or the 2010 value is greater than 10.

b "Yes" signifies that either (1) the percent change between 2010 and 2011 is within the cross-year expected range or (2) both the 2010 and the 2011 values are less than 10. "No" signifies that both (1) the percent change between 2010 and 2011 is over or under the cross-year expected range and (2) either the 2010 or the 2011 value is greater than 10.

2009-2011 MAX IP Billing Provider Characteristics Validation Table  
 State: MO  
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Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>Provider IDs with NPPES Primary Taxonomy</b>								
Number of provider IDs with NPPES primary taxonomy	726	578	562	-20.39	-2.77	30% (+/-)	Yes	Yes
% individual or group of individuals	26.2	23.9	23.1	-8.77	-3.11	30% (+/-)	Yes	Yes
% allopathic and osteopathic physicians	22.5	23.0	21.2	2.49	-7.98	30% (+/-)	Yes	Yes
% behavioral health and social service providers	0.6	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% chiropractic providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% dental providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% dietary and nutritional service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% emergency medical service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% eye and vision service providers	0.1	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% nursing service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% nursing service-related providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% other service providers	1.9	0.7	2.0	-64.11	182.85	30% (+/-)	Yes	Yes
% pharmacy service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% physician assistants and advanced practice nursing providers	0.4	0.2	0.0	-58.11	-100.00	30% (+/-)	Yes	Yes
% podiatric medicine and surgery service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% respiratory, developmental, rehabilitative, and restorative service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% speech, language, and hearing service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% student health care	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% technologists, technicians, and other technical service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% group of individuals with multi- or single specialty	0.7	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% nonindividuals	73.8	76.1	76.9	3.11	0.98	30% (+/-)	Yes	Yes
% agencies	0.1	0.2	0.0	25.36	-100.00	30% (+/-)	Yes	Yes
% ambulatory health care facilities	5.9	7.6	7.3	28.52	-4.16	30% (+/-)	Yes	Yes
% hospital units	5.0	5.9	5.9	18.61	-0.17	30% (+/-)	Yes	Yes
% hospitals	62.1	61.1	62.8	-1.69	2.85	30% (+/-)	Yes	Yes
% laboratories	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% managed care organizations	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% nursing and custodial care facilities	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% residential treatment facilities	0.6	0.7	0.7	25.59	2.85	30% (+/-)	Yes	Yes
% respite care facility	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% suppliers	0.0	0.2	0.2	Div by 0	2.85	30% (+/-)	N/A	Yes
% transportation services	0.1	0.5	0.0	276.09	-100.00	30% (+/-)	Yes	Yes
% nonmedical	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Individual</b>								
Number of provider IDs with entity type = individual	42	41	31	-2.38	-24.39	30% (+/-)	Yes	Yes
% a sole proprietorship	50.0	36.6	51.6	-26.83	41.08	30% (+/-)	Yes	No
% not a sole proprietorship	42.9	61.0	45.2	42.28	-25.94	30% (+/-)	No	Yes
% not answered	7.1	2.4	3.2	-65.85	32.26	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Organization</b>								
Number of provider IDs with entity type = organization	689	539	535	-21.77	-0.74	30% (+/-)	Yes	Yes
% organization is a subpart	13.4	16.0	13.6	19.49	-14.48	30% (+/-)	Yes	Yes
% organization is not a subpart	71.1	75.0	75.3	5.39	0.50	30% (+/-)	Yes	Yes
% not answered	15.5	9.1	11.0	-41.46	21.31	N/A	N/A	N/A

Source: Medicaid Analytic eXtract (MAX) Provider Characteristics Files, 2009-2011.

<sup>a</sup> "Yes" signifies that either (1) the percent change between 2009 and 2010 is within the cross-year expected range or (2) both the 2009 and the 2010 values are less than 10. "No" signifies that both (1) the percent change between 2009 and 2010 is over or under the cross-year expected range and (2) either the 2009 or the 2010 value is greater than 10.

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2009-2011 MAX LT Billing Provider Characteristics Validation Table  
 State: MO  
 Produced: 05/20/2013

Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>LT Providers</b>								
Number of provider IDs	1,074	1,077	1,097	0.28	1.86	30% (+/-)	Yes	Yes
% billing provider on LT claim	49.3	49.1	48.3	-0.47	-1.64	N/A	N/A	N/A
% NPI billing provider on LT claim	50.7	50.9	51.7	0.45	1.58	N/A	N/A	N/A
% also a provider on IP claim	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
% also a provider on OT claim	2.3	1.8	1.6	-24.23	-6.98	N/A	N/A	N/A
% also a provider on RX claim	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
% provider IDs with NPI	98.4	98.1	99.1	-0.28	0.96	30% (+/-)	Yes	Yes
% provider IDs linked to NPPES	98.0	98.1	99.1	0.10	0.96	30% (+/-)	Yes	Yes
% provider IDs with or without NPI but linked to state provider file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
average number of LT claims	1,156.2	1,140.6	1,159.1	-1.35	1.62	30% (+/-)	Yes	Yes
average number of beneficiaries with LT claims	78.8	78.2	78.6	-0.74	0.52	30% (+/-)	Yes	Yes
<b>Provider IDs with NPI</b>								
Number of provider IDs with NPI	1,057	1,057	1,087	0.00	2.84	30% (+/-)	Yes	Yes
% NPI source = MSIS	98.3	96.8	97.4	-1.54	0.66	30% (+/-)	Yes	Yes
% NPI source = NPPES	1.7	3.2	2.6	88.90	-19.93	30% (+/-)	Yes	Yes
% NPI source = state cross-reference file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs Linked to NPPES</b>								
Number of provider IDs linked to NPPES	1,053	1,057	1,087	0.38	2.84	30% (+/-)	Yes	Yes
% linked via NPI	98.3	96.8	97.4	-1.53	0.66	30% (+/-)	Yes	Yes
% linked via Medicaid legacy provider ID	1.7	3.2	2.6	88.24	-19.93	30% (+/-)	Yes	Yes
% linked via Medicare UPIN	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% with name prefix	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% with first name	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% with middle name	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% with last name	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% with name suffix	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% male	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% female	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% with credential	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% with business name	100.0	99.9	99.9	-0.09	0.00	30% (+/-)	Yes	Yes
% with address line 1	100.0	99.9	99.9	-0.09	0.00	30% (+/-)	Yes	Yes
% with city	100.0	99.9	99.9	-0.09	0.00	30% (+/-)	Yes	Yes
% with state	100.0	99.9	99.9	-0.09	0.00	30% (+/-)	Yes	Yes
% state = LT state code	99.2	99.3	99.1	0.10	-0.26	30% (+/-)	Yes	Yes
% with zip code	100.0	99.9	99.9	-0.09	0.00	30% (+/-)	Yes	Yes
% with primary taxonomy	99.2	99.5	99.5	0.29	0.01	30% (+/-)	Yes	Yes
% with provider entity type = individual	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% with provider entity type = organization	100.0	99.9	99.9	-0.09	0.00	30% (+/-)	Yes	Yes
<b>Provider IDs with or without NPI but linked to state provider file</b>								
Number of provider IDs with or without NPI linked to state provider file	0	0	0	Div by 0	Div by 0	N/A	N/A	N/A

Source: Medicaid Analytic eXtract (MAX) Provider Characteristics Files, 2009-2011.

<sup>a</sup> "Yes" signifies that either (1) the percent change between 2009 and 2010 is within the cross-year expected range or (2) both the 2009 and the 2010 values are less than 10. "No" signifies that both (1) the percent change between 2009 and 2010 is over or under the cross-year expected range and (2) either the 2009 or the 2010 value is greater than 10.

<sup>b</sup> "Yes" signifies that either (1) the percent change between 2010 and 2011 is within the cross-year expected range or (2) both the 2010 and the 2011 values are less than 10. "No" signifies that both (1) the percent change between 2010 and 2011 is over or under the cross-year expected range and (2) either the 2010 or the 2011 value is greater than 10.

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 State: MO  
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Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>Provider IDs with NPPES Primary Taxonomy</b>								
Number of provider IDs with NPPES primary taxonomy	1,046	1,052	1,082	0.57	2.85	30% (+/-)	Yes	Yes
% individual or group of individuals	0.2	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% allopathic and osteopathic physicians	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% behavioral health and social service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% chiropractic providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% dental providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% dietary and nutritional service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% emergency medical service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% eye and vision service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% nursing service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% nursing service-related providers	0.2	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% other service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% pharmacy service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% physician assistants and advanced practice nursing providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% podiatric medicine and surgery service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% respiratory, developmental, rehabilitative, and restorative service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% speech, language, and hearing service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% student health care	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% technologists, technicians, and other technical service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% group of individuals with multi- or single specialty	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% nonindividuals	99.8	100.0	100.0	0.19	0.00	30% (+/-)	Yes	Yes
% agencies	0.0	0.3	0.2	Div by 0	-35.14	30% (+/-)	N/A	Yes
% ambulatory health care facilities	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% hospital units	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% hospitals	0.9	0.8	0.7	-11.63	-2.71	30% (+/-)	Yes	Yes
% laboratories	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% managed care organizations	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% nursing and custodial care facilities	98.5	98.6	98.7	0.11	0.13	30% (+/-)	Yes	Yes
% residential treatment facilities	0.5	0.4	0.4	-20.50	-2.71	30% (+/-)	Yes	Yes
% respite care facility	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% suppliers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% transportation services	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% nonmedical	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Individual</b>								
Number of provider IDs with entity type = individual	0	0	0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% a sole proprietorship	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% not a sole proprietorship	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% not answered	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Organization</b>								
Number of provider IDs with entity type = organization	1,053	1,056	1,086	0.28	2.84	30% (+/-)	Yes	Yes
% organization is a subpart	8.0	7.5	7.7	-6.22	3.39	30% (+/-)	Yes	Yes
% organization is not a subpart	56.1	74.5	74.5	32.79	-0.04	30% (+/-)	No	Yes
% not answered	35.9	18.0	17.8	-49.88	-1.22	N/A	N/A	N/A

Source: Medicaid Analytic eXtract (MAX) Provider Characteristics Files, 2009-2011.

a "Yes" signifies that either (1) the percent change between 2009 and 2010 is within the cross-year expected range or (2) both the 2009 and the 2010 values are less than 10. "No" signifies that both (1) the percent change between 2009 and 2010 is over or under the cross-year expected range and (2) either the 2009 or the 2010 value is greater than 10.

b "Yes" signifies that either (1) the percent change between 2010 and 2011 is within the cross-year expected range or (2) both the 2010 and the 2011 values are less than 10. "No" signifies that both (1) the percent change between 2010 and 2011 is over or under the cross-year expected range and (2) either the 2010 or the 2011 value is greater than 10.

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Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>OT Providers</b>								
Number of provider IDs	57,595	59,506	64,339	3.32	8.12	30% (+/-)	Yes	Yes
% billing provider on OT claim	5.8	6.0	5.1	2.45	-13.84	N/A	N/A	N/A
% servicing provider on OT claim	79.3	80.2	82.3	1.19	2.61	N/A	N/A	N/A
% NPI servicing provider on OT claim	20.7	19.8	17.7	-4.56	-10.58	N/A	N/A	N/A
% also a provider on IP claim	0.8	0.7	0.6	-7.52	-11.37	N/A	N/A	N/A
% also a provider on LT claim	0.0	0.0	0.0	-23.68	-8.89	N/A	N/A	N/A
% also a provider on RX claim	16.7	17.4	16.4	4.18	-5.65	N/A	N/A	N/A
% provider IDs with NPI	74.4	82.7	82.1	11.17	-0.76	30% (+/-)	Yes	Yes
% provider IDs linked to NPPES	53.0	52.9	49.3	-0.28	-6.76	30% (+/-)	Yes	Yes
% provider IDs with or without NPI but linked to state provider file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
average number of OT claims	1,052.2	1,142.8	1,040.2	8.61	-8.98	30% (+/-)	Yes	Yes
average number of beneficiaries with OT claims	168.4	163.3	155.7	-3.04	-4.68	30% (+/-)	Yes	Yes
<b>Provider IDs with NPI</b>								
Number of provider IDs with NPI	42,855	49,222	52,818	14.86	7.31	30% (+/-)	Yes	Yes
% NPI source = MSIS	94.1	94.6	95.2	0.48	0.68	30% (+/-)	Yes	Yes
% NPI source = NPPES	5.9	5.4	4.8	-7.65	-11.80	30% (+/-)	Yes	Yes
% NPI source = state cross-reference file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs Linked to NPPES</b>								
Number of provider IDs linked to NPPES	30,540	31,466	31,723	3.03	0.82	30% (+/-)	Yes	Yes
% linked via NPI	91.7	91.5	92.0	-0.26	0.57	30% (+/-)	Yes	Yes
% linked via Medicaid legacy provider ID	8.2	8.5	7.9	3.02	-6.25	30% (+/-)	Yes	Yes
% linked via Medicare UPIN	0.0	0.0	0.0	-10.26	26.09	30% (+/-)	Yes	Yes
% with name prefix	12.0	11.4	10.5	-4.50	-8.12	30% (+/-)	Yes	Yes
% with first name	20.4	19.9	18.4	-2.44	-7.35	30% (+/-)	Yes	Yes
% with middle name	17.0	16.6	15.2	-2.48	-7.96	30% (+/-)	Yes	Yes
% with last name	20.4	19.9	18.4	-2.44	-7.35	30% (+/-)	Yes	Yes
% with name suffix	0.7	0.7	0.6	-3.04	-8.84	30% (+/-)	Yes	Yes
% male	13.2	12.7	11.5	-3.81	-9.01	30% (+/-)	Yes	Yes
% female	7.2	7.2	6.8	0.07	-4.41	30% (+/-)	Yes	Yes
% with credential	19.6	19.2	17.8	-2.13	-7.58	30% (+/-)	Yes	Yes
% with business name	79.7	79.8	81.5	0.17	2.09	30% (+/-)	Yes	Yes
% with address line 1	100.0	99.6	99.8	-0.36	0.21	30% (+/-)	Yes	Yes
% with city	100.0	99.6	99.8	-0.36	0.21	30% (+/-)	Yes	Yes
% with state	100.0	99.6	99.8	-0.36	0.21	30% (+/-)	Yes	Yes
% state = OT state code	81.8	82.3	82.4	0.56	0.12	30% (+/-)	Yes	Yes
% with zip code	100.0	99.6	99.8	-0.36	0.21	30% (+/-)	Yes	Yes
% with primary taxonomy	98.5	97.6	97.8	-0.91	0.22	30% (+/-)	Yes	Yes
% with provider entity type = individual	20.4	19.9	18.4	-2.44	-7.35	30% (+/-)	Yes	Yes
% with provider entity type = organization	79.7	79.8	81.5	0.17	2.09	30% (+/-)	Yes	Yes
<b>Provider IDs with or without NPI but linked to state provider file</b>								
Number of provider IDs with or without NPI linked to state provider file	0	0	0	Div by 0	Div by 0	N/A	N/A	N/A

Source: Medicaid Analytic eXtract (MAX) Provider Characteristics Files, 2009-2011.

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Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>Provider IDs with NPPES Primary Taxonomy</b>								
Number of provider IDs with NPPES primary taxonomy	33,741	30,698	31,017	-9.02	1.04	30% (+/-)	Yes	Yes
% individual or group of individuals	66.6	58.5	58.6	-12.23	0.17	30% (+/-)	Yes	Yes
% allopathic and osteopathic physicians	46.1	41.7	41.8	-9.45	0.25	30% (+/-)	Yes	Yes
% behavioral health and social service providers	5.0	6.0	6.2	20.85	3.79	30% (+/-)	Yes	Yes
% chiropractic providers	0.3	0.3	0.3	2.81	-5.92	30% (+/-)	Yes	Yes
% dental providers	1.4	1.7	1.6	17.22	-2.38	30% (+/-)	Yes	Yes
% dietary and nutritional service providers	0.0	0.0	0.0	-53.33	-100.00	30% (+/-)	Yes	Yes
% emergency medical service providers	0.2	0.1	0.1	-26.49	-33.20	30% (+/-)	Yes	Yes
% eye and vision service providers	2.0	2.2	2.1	8.82	-4.42	30% (+/-)	Yes	Yes
% nursing service providers	0.1	0.1	0.1	-2.73	11.49	30% (+/-)	Yes	Yes
% nursing service-related providers	0.4	0.3	0.3	-39.45	-4.74	30% (+/-)	Yes	Yes
% other service providers	1.4	2.1	2.1	46.58	-3.01	30% (+/-)	Yes	Yes
% pharmacy service providers	0.0	0.1	0.1	254.17	-1.38	30% (+/-)	Yes	Yes
% physician assistants and advanced practice nursing providers	4.8	1.7	1.7	-65.11	-1.05	30% (+/-)	Yes	Yes
% podiatric medicine and surgery service providers	0.9	1.0	1.0	5.97	3.32	30% (+/-)	Yes	Yes
% respiratory, developmental, rehabilitative, and restorative service providers	0.6	0.6	0.6	10.43	0.02	30% (+/-)	Yes	Yes
% speech, language, and hearing service providers	0.6	0.5	0.5	-8.26	-1.58	30% (+/-)	Yes	Yes
% student health care	0.0	0.0	0.0	-16.67	61.20	30% (+/-)	Yes	Yes
% technologists, technicians, and other technical service providers	0.0	0.0	0.1	16.67	30.50	30% (+/-)	Yes	Yes
% group of individuals with multi- or single specialty	2.7	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% nonindividuals	33.4	41.5	41.4	24.43	-0.24	30% (+/-)	Yes	Yes
% agencies	8.1	9.6	9.9	18.69	3.79	30% (+/-)	Yes	Yes
% ambulatory health care facilities	8.9	14.9	14.4	67.00	-3.60	30% (+/-)	No	Yes
% hospital units	0.1	0.1	0.1	-0.68	-1.30	30% (+/-)	Yes	Yes
% hospitals	2.8	3.9	3.8	37.18	-1.77	30% (+/-)	Yes	Yes
% laboratories	0.8	1.0	1.1	29.11	6.21	30% (+/-)	Yes	Yes
% managed care organizations	0.0	0.1	0.1	31.91	19.60	30% (+/-)	Yes	Yes
% nursing and custodial care facilities	0.8	1.1	1.1	30.09	-1.29	30% (+/-)	Yes	Yes
% residential treatment facilities	3.5	2.6	2.5	-27.61	-1.42	30% (+/-)	Yes	Yes
% respite care facility	0.0	0.1	0.1	118.52	-1.64	30% (+/-)	Yes	Yes
% suppliers	6.9	6.8	6.9	-1.62	2.08	30% (+/-)	Yes	Yes
% transportation services	1.3	1.5	1.5	12.88	-1.44	30% (+/-)	Yes	Yes
% nonmedical	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Individual</b>								
Number of provider IDs with entity type = individual	6,215	6,247	5,835	0.51	-6.60	30% (+/-)	Yes	Yes
% a sole proprietorship	34.3	36.3	38.1	6.03	4.99	30% (+/-)	Yes	Yes
% not a sole proprietorship	57.2	57.6	56.3	0.75	-2.28	30% (+/-)	Yes	Yes
% not answered	8.6	6.1	5.6	-29.12	-8.19	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Organization</b>								
Number of provider IDs with entity type = organization	24,325	25,105	25,840	3.21	2.93	30% (+/-)	Yes	Yes
% organization is a subpart	12.0	13.0	13.2	9.01	1.49	30% (+/-)	Yes	Yes
% organization is not a subpart	68.6	72.1	73.0	5.01	1.28	30% (+/-)	Yes	Yes
% not answered	19.4	14.9	13.8	-23.27	-7.46	N/A	N/A	N/A

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Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>OT Providers</b>								
Number of provider IDs	12,541	12,813	12,257	2.17	-4.34	30% (+/-)	Yes	Yes
% billing provider on OT claim	100.0	100.0	100.0	0.00	0.00	N/A	N/A	N/A
% servicing provider on OT claim	26.8	27.7	27.0	3.59	-2.61	N/A	N/A	N/A
% NPI servicing provider on OT claim	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
% also a provider on IP claim	3.4	3.4	3.5	1.61	2.61	N/A	N/A	N/A
% also a provider on LT claim	0.0	0.0	0.0	-33.33	-49.01	N/A	N/A	N/A
% also a provider on RX claim	19.6	19.3	19.5	-1.41	0.78	N/A	N/A	N/A
% provider IDs with NPI	41.8	43.4	42.8	4.04	-1.57	30% (+/-)	Yes	Yes
% provider IDs linked to NPPES	41.0	42.1	42.1	2.56	0.00	30% (+/-)	Yes	Yes
% provider IDs with or without NPI but linked to state provider file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
average number of OT claims	4,905.0	5,366.4	5,322.8	9.41	-0.81	30% (+/-)	Yes	Yes
average number of beneficiaries with OT claims	498.9	743.6	707.1	49.05	-4.91	30% (+/-)	No	Yes
<b>Provider IDs with NPI</b>								
Number of provider IDs with NPI	5,237	5,567	5,242	6.30	-5.84	30% (+/-)	Yes	Yes
% NPI source = MSIS	65.7	63.7	66.2	-2.97	3.89	30% (+/-)	Yes	Yes
% NPI source = NPPES	34.3	36.3	33.8	5.69	-6.84	30% (+/-)	Yes	Yes
% NPI source = state cross-reference file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs Linked to NPPES</b>								
Number of provider IDs linked to NPPES	5,146	5,392	5,158	4.78	-4.34	30% (+/-)	Yes	Yes
% linked via NPI	65.1	62.5	65.6	-3.88	4.97	30% (+/-)	Yes	Yes
% linked via Medicaid legacy provider ID	34.9	37.4	34.3	7.23	-8.31	30% (+/-)	Yes	Yes
% linked via Medicare UPIN	0.0	0.0	0.0	-5.13	4.80	30% (+/-)	Yes	Yes
% with name prefix	13.9	15.7	15.5	13.01	-1.50	30% (+/-)	Yes	Yes
% with first name	22.7	25.2	24.2	10.86	-3.78	30% (+/-)	Yes	Yes
% with middle name	19.1	21.0	20.1	10.21	-4.31	30% (+/-)	Yes	Yes
% with last name	22.7	25.2	24.2	10.86	-3.78	30% (+/-)	Yes	Yes
% with name suffix	1.1	1.2	1.0	7.35	-12.03	30% (+/-)	Yes	Yes
% male	15.9	16.7	15.8	5.13	-5.57	30% (+/-)	Yes	Yes
% female	6.8	8.5	8.5	24.18	-0.26	30% (+/-)	Yes	Yes
% with credential	22.1	24.4	23.4	10.74	-4.04	30% (+/-)	Yes	Yes
% with business name	77.3	74.6	75.5	-3.53	1.31	30% (+/-)	Yes	Yes
% with address line 1	100.0	99.7	99.8	-0.26	0.03	30% (+/-)	Yes	Yes
% with city	100.0	99.7	99.8	-0.26	0.03	30% (+/-)	Yes	Yes
% with state	100.0	99.7	99.8	-0.26	0.03	30% (+/-)	Yes	Yes
% state = OT state code	86.4	87.4	86.8	1.15	-0.76	30% (+/-)	Yes	Yes
% with zip code	100.0	99.7	99.8	-0.26	0.03	30% (+/-)	Yes	Yes
% with primary taxonomy	99.2	98.8	98.9	-0.47	0.10	30% (+/-)	Yes	Yes
% with provider entity type = individual	22.7	25.2	24.2	10.86	-3.78	30% (+/-)	Yes	Yes
% with provider entity type = organization	77.3	74.6	75.5	-3.53	1.31	30% (+/-)	Yes	Yes
<b>Provider IDs with or without NPI but linked to state provider file</b>								
Number of provider IDs with or without NPI linked to state provider file	0	0	0	Div by 0	Div by 0	N/A	N/A	N/A

Source: Medicaid Analytic eXtract (MAX) Provider Characteristics Files, 2009-2011.

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Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>Provider IDs with NPPES Primary Taxonomy</b>								
Number of provider IDs with NPPES primary taxonomy	5,115	5,326	5,100	4.13	-4.24	30% (+/-)	Yes	Yes
% individual or group of individuals	46.4	46.5	45.4	0.25	-2.40	30% (+/-)	Yes	Yes
% allopathic and osteopathic physicians	27.6	26.8	25.2	-2.81	-5.88	30% (+/-)	Yes	Yes
% behavioral health and social service providers	4.7	6.7	7.4	41.85	10.30	30% (+/-)	Yes	Yes
% chiropractic providers	0.4	0.5	0.4	15.35	-8.70	30% (+/-)	Yes	Yes
% dental providers	2.8	2.9	2.8	3.49	-1.04	30% (+/-)	Yes	Yes
% dietary and nutritional service providers	0.0	0.0	0.0	90.00	-100.00	30% (+/-)	Yes	Yes
% emergency medical service providers	0.1	0.2	0.2	91.84	4.30	30% (+/-)	Yes	Yes
% eye and vision service providers	3.3	3.1	3.0	-5.70	-1.93	30% (+/-)	Yes	Yes
% nursing service providers	0.2	0.2	0.3	14.80	30.72	30% (+/-)	Yes	Yes
% nursing service-related providers	0.8	0.7	0.6	-15.71	-10.08	30% (+/-)	Yes	Yes
% other service providers	1.4	1.9	2.1	36.01	7.51	30% (+/-)	Yes	Yes
% pharmacy service providers	0.1	0.3	0.3	440.68	-1.65	30% (+/-)	Yes	Yes
% physician assistants and advanced practice nursing providers	1.3	0.7	0.5	-41.49	-25.00	30% (+/-)	Yes	Yes
% podiatric medicine and surgery service providers	1.4	1.5	1.5	3.92	3.13	30% (+/-)	Yes	Yes
% respiratory, developmental, rehabilitative, and restorative service providers	0.6	0.4	0.4	-26.41	-13.76	30% (+/-)	Yes	Yes
% speech, language, and hearing service providers	0.4	0.5	0.4	19.95	-12.20	30% (+/-)	Yes	Yes
% student health care	0.0	0.0	0.0	-5.00	106.40	30% (+/-)	Yes	Yes
% technologists, technicians, and other technical service providers	0.1	0.1	0.1	-4.08	25.16	30% (+/-)	Yes	Yes
% group of individuals with multi- or single specialty	1.3	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% nonindividuals	53.6	53.5	54.6	-0.22	2.09	30% (+/-)	Yes	Yes
% agencies	9.0	10.8	9.1	20.20	-16.39	30% (+/-)	Yes	Yes
% ambulatory health care facilities	10.8	12.9	13.4	19.70	3.52	30% (+/-)	Yes	Yes
% hospital units	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% hospitals	5.5	3.2	3.4	-42.25	6.29	30% (+/-)	Yes	Yes
% laboratories	1.8	2.0	2.2	10.62	9.37	30% (+/-)	Yes	Yes
% managed care organizations	0.1	0.1	0.1	11.97	4.77	30% (+/-)	Yes	Yes
% nursing and custodial care facilities	0.7	1.0	1.0	36.47	2.49	30% (+/-)	Yes	Yes
% residential treatment facilities	2.4	1.8	1.9	-23.49	3.37	30% (+/-)	Yes	Yes
% respite care facility	0.1	0.1	0.2	122.03	19.74	30% (+/-)	Yes	Yes
% suppliers	19.9	17.8	19.6	-10.29	10.15	30% (+/-)	Yes	Yes
% transportation services	3.3	3.6	3.7	9.60	2.26	30% (+/-)	Yes	Yes
% nonmedical	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Individual</b>								
Number of provider IDs with entity type = individual	1,169	1,358	1,250	16.17	-7.95	30% (+/-)	Yes	Yes
% a sole proprietorship	46.6	51.2	54.5	9.77	6.45	30% (+/-)	Yes	Yes
% not a sole proprietorship	41.3	40.9	37.2	-1.08	-8.98	30% (+/-)	Yes	Yes
% not answered	12.1	8.0	8.3	-34.07	4.61	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Organization</b>								
Number of provider IDs with entity type = organization	3,977	4,020	3,896	1.08	-3.08	30% (+/-)	Yes	Yes
% organization is a subpart	15.2	16.3	16.8	6.93	2.86	30% (+/-)	Yes	Yes
% organization is not a subpart	73.6	76.6	76.5	4.07	-0.17	30% (+/-)	Yes	Yes
% not answered	11.2	7.1	6.8	-36.28	-4.75	N/A	N/A	N/A

Source: Medicaid Analytic eXtract (MAX) Provider Characteristics Files, 2009-2011.

<sup>a</sup> "Yes" signifies that either (1) the percent change between 2009 and 2010 is within the cross-year expected range or (2) both the 2009 and the 2010 values are less than 10. "No" signifies that both (1) the percent change between 2009 and 2010 is over or under the cross-year expected range and (2) either the 2009 or the 2010 value is greater than 10.

<sup>b</sup> "Yes" signifies that either (1) the percent change between 2010 and 2011 is within the cross-year expected range or (2) both the 2010 and the 2011 values are less than 10. "No" signifies that both (1) the percent change between 2010 and 2011 is over or under the cross-year expected range and (2) either the 2010 or the 2011 value is greater than 10.

2009-2011 MAX RX Billing Provider Characteristics Validation Table  
 State: MO  
 Produced: 05/20/2013

Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>RX Providers</b>								
Number of provider IDs	6,847	5,623	5,609	-17.88	-0.25	30% (+/-)	Yes	Yes
% billing provider on RX claim	41.8	51.3	51.6	22.62	0.74	N/A	N/A	N/A
% prescribing provider on RX claim	8.8	4.1	3.2	-52.95	-21.70	N/A	N/A	N/A
% NPI billing provider on RX claim	58.2	48.7	48.4	-16.25	-0.77	N/A	N/A	N/A
% also a provider on IP claim	6.1	7.2	7.1	17.68	-0.75	N/A	N/A	N/A
% also a provider on LT claim	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
% also a provider on OT claim	57.1	71.7	71.7	25.44	0.13	N/A	N/A	N/A
% provider IDs with NPI	95.4	94.9	94.7	-0.48	-0.16	30% (+/-)	Yes	Yes
% provider IDs linked to NPPES	79.9	94.9	94.7	18.78	-0.16	30% (+/-)	Yes	Yes
% provider IDs with or without NPI but linked to state provider file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
average number of RX claims	3,835.5	5,333.4	5,490.4	39.05	2.94	30% (+/-)	No	Yes
average number of beneficiaries with RX claims	386.6	523.7	531.7	35.45	1.53	30% (+/-)	No	Yes
<b>Provider IDs with NPI</b>								
Number of provider IDs with NPI	6,529	5,336	5,314	-18.27	-0.41	30% (+/-)	Yes	Yes
% NPI source = MSIS	97.7	96.7	97.3	-1.02	0.57	30% (+/-)	Yes	Yes
% NPI source = NPPES	2.3	3.3	2.7	43.73	-16.81	30% (+/-)	Yes	Yes
% NPI source = state cross-reference file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs Linked to NPPES</b>								
Number of provider IDs linked to NPPES	5,468	5,334	5,312	-2.45	-0.41	30% (+/-)	Yes	Yes
% linked via NPI	97.3	96.7	97.3	-0.57	0.57	30% (+/-)	Yes	Yes
% linked via Medicaid legacy provider ID	2.7	3.3	2.7	20.40	-16.80	30% (+/-)	Yes	Yes
% linked via Medicare UPIN	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% with name prefix	2.9	2.9	2.6	1.20	-12.37	30% (+/-)	Yes	Yes
% with first name	5.7	5.5	4.3	-3.09	-21.11	30% (+/-)	Yes	Yes
% with middle name	5.1	5.0	3.9	-1.56	-21.86	30% (+/-)	Yes	Yes
% with last name	5.7	5.5	4.3	-3.09	-21.11	30% (+/-)	Yes	Yes
% with name suffix	0.3	0.3	0.2	-9.65	-12.91	30% (+/-)	Yes	Yes
% male	4.1	3.9	3.2	-4.37	-17.84	30% (+/-)	Yes	Yes
% female	1.6	1.6	1.1	0.19	-29.14	30% (+/-)	Yes	Yes
% with credential	5.5	5.4	4.3	-2.92	-19.60	30% (+/-)	Yes	Yes
% with business name	94.3	94.2	95.5	-0.11	1.33	30% (+/-)	Yes	Yes
% with address line 1	100.0	99.7	99.8	-0.28	0.09	30% (+/-)	Yes	Yes
% with city	100.0	99.7	99.8	-0.28	0.09	30% (+/-)	Yes	Yes
% with state	100.0	99.7	99.8	-0.28	0.09	30% (+/-)	Yes	Yes
% state = RX state code	85.2	89.8	88.9	5.35	-1.05	30% (+/-)	Yes	Yes
% with zip code	100.0	99.7	99.8	-0.28	0.09	30% (+/-)	Yes	Yes
% with primary taxonomy	98.9	98.7	98.8	-0.22	0.15	30% (+/-)	Yes	Yes
% with provider entity type = individual	5.7	5.5	4.3	-3.09	-21.11	30% (+/-)	Yes	Yes
% with provider entity type = organization	94.3	94.2	95.5	-0.11	1.33	30% (+/-)	Yes	Yes
<b>Provider IDs with or without NPI but linked to state provider file</b>								
Number of provider IDs with or without NPI linked to state provider file	0	0	0	Div by 0	Div by 0	N/A	N/A	N/A

Source: Medicaid Analytic eXtract (MAX) Provider Characteristics Files, 2009-2011.

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b "Yes" signifies that either (1) the percent change between 2010 and 2011 is within the cross-year expected range or (2) both the 2010 and the 2011 values are less than 10. "No" signifies that both (1) the percent change between 2010 and 2011 is over or under the cross-year expected range and (2) either the 2010 or the 2011 value is greater than 10.

2009-2011 MAX RX Billing Provider Characteristics Validation Table  
 State: MO  
 Produced: 05/20/2013

Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>Provider IDs with NPPES Primary Taxonomy</b>								
Number of provider IDs with NPPES primary taxonomy	5,413	5,262	5,248	-2.79	-0.27	30% (+/-)	Yes	Yes
% individual or group of individuals	26.2	27.2	25.4	3.59	-6.60	30% (+/-)	Yes	Yes
% allopathic and osteopathic physicians	20.8	22.9	21.2	10.00	-7.07	30% (+/-)	Yes	Yes
% behavioral health and social service providers	0.2	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% chiropractic providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% dental providers	0.0	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% dietary and nutritional service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% emergency medical service providers	0.0	0.0	0.0	2.70	-49.86	30% (+/-)	Yes	Yes
% eye and vision service providers	0.0	0.0	0.0	2.70	0.29	30% (+/-)	Yes	Yes
% nursing service providers	0.1	0.1	0.1	3.64	67.15	30% (+/-)	Yes	Yes
% nursing service-related providers	0.0	0.0	0.0	5.56	-100.00	30% (+/-)	Yes	Yes
% other service providers	0.9	1.5	1.6	61.36	4.05	30% (+/-)	Yes	Yes
% pharmacy service providers	1.3	1.7	1.6	31.14	-4.27	30% (+/-)	Yes	Yes
% physician assistants and advanced practice nursing providers	1.1	0.5	0.4	-50.33	-31.95	30% (+/-)	Yes	Yes
% podiatric medicine and surgery service providers	0.5	0.4	0.4	-5.41	-8.43	30% (+/-)	Yes	Yes
% respiratory, developmental, rehabilitative, and restorative service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% speech, language, and hearing service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% student health care	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% technologists, technicians, and other technical service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% group of individuals with multi- or single specialty	1.3	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% nonindividuals	73.8	72.8	74.6	-1.28	2.46	30% (+/-)	Yes	Yes
% agencies	2.0	2.3	2.2	17.30	-4.68	30% (+/-)	Yes	Yes
% ambulatory health care facilities	11.6	14.7	15.6	26.58	6.36	30% (+/-)	Yes	Yes
% hospital units	0.1	0.2	0.0	2.70	-74.93	30% (+/-)	Yes	Yes
% hospitals	4.5	3.8	3.7	-15.75	-1.25	30% (+/-)	Yes	Yes
% laboratories	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% managed care organizations	0.1	0.2	0.2	36.94	0.29	30% (+/-)	Yes	Yes
% nursing and custodial care facilities	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% residential treatment facilities	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% respite care facility	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% suppliers	55.4	51.7	52.8	-6.67	2.18	30% (+/-)	Yes	Yes
% transportation services	0.0	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% nonmedical	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Individual</b>								
Number of provider IDs with entity type = individual	311	294	231	-5.47	-21.43	30% (+/-)	Yes	Yes
% a sole proprietorship	41.8	50.0	49.4	19.61	-1.30	30% (+/-)	Yes	Yes
% not a sole proprietorship	44.7	43.2	42.9	-3.35	-0.79	30% (+/-)	Yes	Yes
% not answered	13.5	6.8	7.8	-49.63	14.54	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Organization</b>								
Number of provider IDs with entity type = organization	5,157	5,025	5,071	-2.56	0.92	30% (+/-)	Yes	Yes
% organization is a subpart	30.3	28.6	29.4	-5.58	2.74	30% (+/-)	Yes	Yes
% organization is not a subpart	59.2	64.0	64.1	8.07	0.11	30% (+/-)	Yes	Yes
% not answered	10.5	7.4	6.5	-29.55	-11.62	N/A	N/A	N/A

Source: Medicaid Analytic eXtract (MAX) Provider Characteristics Files, 2009-2011.

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b "Yes" signifies that either (1) the percent change between 2010 and 2011 is within the cross-year expected range or (2) both the 2010 and the 2011 values are less than 10. "No" signifies that both (1) the percent change between 2010 and 2011 is over or under the cross-year expected range and (2) either the 2010 or the 2011 value is greater than 10.

2009-2011 MAX RX Prescribing Provider Characteristics Validation Table

State: MO

Produced: 05/20/2013

Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>RX Providers</b>								
Number of provider IDs	38,641	40,445	41,043	4.67	1.48	30% (+/-)	Yes	Yes
% billing provider on RX claim	1.6	0.6	0.4	-63.10	-23.01	N/A	N/A	N/A
% prescribing provider on RX claim	100.0	100.0	100.0	0.00	0.00	N/A	N/A	N/A
% NPI billing provider on RX claim	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
% also a provider on IP claim	0.4	0.1	0.1	-60.28	-20.51	N/A	N/A	N/A
% also a provider on LT claim	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
% also a provider on OT claim	20.5	20.2	20.4	-1.19	0.88	N/A	N/A	N/A
% provider IDs with NPI	13.1	14.0	13.9	6.56	-0.82	30% (+/-)	Yes	Yes
% provider IDs linked to NPPES	13.1	14.0	13.9	6.77	-0.71	30% (+/-)	Yes	Yes
% provider IDs with or without NPI but linked to state provider file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
average number of RX claims	371.3	373.9	378.0	0.69	1.11	30% (+/-)	Yes	Yes
average number of beneficiaries with RX claims	55.2	56.7	57.0	2.63	0.53	30% (+/-)	Yes	Yes
<b>Provider IDs with NPI</b>								
Number of provider IDs with NPI	5,081	5,667	5,704	11.53	0.65	30% (+/-)	Yes	Yes
% NPI source = MSIS	69.1	68.5	70.7	-0.92	3.19	30% (+/-)	Yes	Yes
% NPI source = NPPES	30.9	31.5	29.3	2.05	-6.93	30% (+/-)	Yes	Yes
% NPI source = state cross-reference file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs Linked to NPPES</b>								
Number of provider IDs linked to NPPES	5,053	5,647	5,690	11.76	0.76	30% (+/-)	Yes	Yes
% linked via NPI	68.9	68.4	70.6	-0.83	3.26	30% (+/-)	Yes	Yes
% linked via Medicaid legacy provider ID	30.9	31.6	29.3	2.08	-7.04	30% (+/-)	Yes	Yes
% linked via Medicare UPIN	0.1	0.1	0.1	-48.92	-0.99	30% (+/-)	Yes	Yes
% with name prefix	19.0	18.4	16.6	-2.95	-9.92	30% (+/-)	Yes	Yes
% with first name	33.5	34.5	31.5	2.90	-8.70	30% (+/-)	Yes	Yes
% with middle name	28.2	28.8	26.0	2.09	-9.60	30% (+/-)	Yes	Yes
% with last name	33.5	34.5	31.5	2.90	-8.70	30% (+/-)	Yes	Yes
% with name suffix	1.3	1.2	1.1	-6.39	-11.09	30% (+/-)	Yes	Yes
% male	25.3	25.6	23.0	1.23	-10.49	30% (+/-)	Yes	Yes
% female	8.2	8.9	8.5	8.07	-3.53	30% (+/-)	Yes	Yes
% with credential	33.0	34.0	31.0	3.08	-8.72	30% (+/-)	Yes	Yes
% with business name	66.5	65.4	68.4	-1.62	4.65	30% (+/-)	Yes	Yes
% with address line 1	100.0	99.9	99.9	-0.11	0.04	30% (+/-)	Yes	Yes
% with city	100.0	99.9	99.9	-0.11	0.04	30% (+/-)	Yes	Yes
% with state	100.0	99.9	99.9	-0.11	0.04	30% (+/-)	Yes	Yes
% state = RX state code	91.7	92.7	94.0	1.03	1.50	30% (+/-)	Yes	Yes
% with zip code	100.0	99.9	99.9	-0.11	0.04	30% (+/-)	Yes	Yes
% with primary taxonomy	99.4	99.3	99.1	-0.17	-0.12	30% (+/-)	Yes	Yes
% with provider entity type = individual	33.5	34.5	31.5	2.90	-8.70	30% (+/-)	Yes	Yes
% with provider entity type = organization	66.5	65.4	68.4	-1.62	4.65	30% (+/-)	Yes	Yes
<b>Provider IDs with or without NPI but linked to state provider file</b>								
Number of provider IDs with or without NPI linked to state provider file	0	0	0	Div by 0	Div by 0	N/A	N/A	N/A

Source: Medicaid Analytic eXtract (MAX) Provider Characteristics Files, 2009-2011.

<sup>a</sup> "Yes" signifies that either (1) the percent change between 2009 and 2010 is within the cross-year expected range or (2) both the 2009 and the 2010 values are less than 10. "No" signifies that both (1) the percent change between 2009 and 2010 is over or under the cross-year expected range and (2) either the 2009 or the 2010 value is greater than 10.

<sup>b</sup> "Yes" signifies that either (1) the percent change between 2010 and 2011 is within the cross-year expected range or (2) both the 2010 and the 2011 values are less than 10. "No" signifies that both (1) the percent change between 2010 and 2011 is over or under the cross-year expected range and (2) either the 2010 or the 2011 value is greater than 10.

2009-2011 MAX RX Prescribing Provider Characteristics Validation Table

State: MO

Produced: 05/20/2013

Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>Provider IDs with NPPES Primary Taxonomy</b>								
Number of provider IDs with NPPES primary taxonomy	5,026	5,605	5,641	11.52	0.64	30% (+/-)	Yes	Yes
% individual or group of individuals	86.9	81.9	81.0	-5.79	-1.03	30% (+/-)	Yes	Yes
% allopathic and osteopathic physicians	74.1	74.1	73.5	0.03	-0.83	30% (+/-)	Yes	Yes
% behavioral health and social service providers	0.2	0.1	0.1	-40.22	15.97	30% (+/-)	Yes	Yes
% chiropractic providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% dental providers	1.2	1.2	1.0	0.34	-12.72	30% (+/-)	Yes	Yes
% dietary and nutritional service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% emergency medical service providers	0.3	0.3	0.1	-16.11	-57.45	30% (+/-)	Yes	Yes
% eye and vision service providers	1.0	0.9	0.8	-12.21	-2.67	30% (+/-)	Yes	Yes
% nursing service providers	0.0	0.1	0.0	170.00	-34.34	30% (+/-)	Yes	Yes
% nursing service-related providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% other service providers	2.0	2.5	2.5	28.58	-0.62	30% (+/-)	Yes	Yes
% pharmacy service providers	0.0	0.0	0.0	-10.00	-100.00	30% (+/-)	Yes	Yes
% physician assistants and advanced practice nursing providers	2.2	1.8	2.0	-18.58	11.42	30% (+/-)	Yes	Yes
% podiatric medicine and surgery service providers	1.0	1.0	0.9	-1.74	-7.62	30% (+/-)	Yes	Yes
% respiratory, developmental, rehabilitative, and restorative service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% speech, language, and hearing service providers	0.0	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% student health care	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% technologists, technicians, and other technical service providers	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% group of individuals with multi- or single specialty	5.0	0.0	0.0	-100.00	Div by 0	30% (+/-)	Yes	N/A
% nonindividuals	13.1	18.1	19.0	38.46	4.64	30% (+/-)	No	Yes
% agencies	0.8	0.5	0.5	-32.79	2.72	30% (+/-)	Yes	Yes
% ambulatory health care facilities	7.7	12.7	14.3	64.97	12.20	30% (+/-)	No	Yes
% hospital units	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% hospitals	3.0	4.4	3.8	47.08	-14.37	30% (+/-)	Yes	Yes
% laboratories	0.1	0.1	0.0	-10.00	-67.17	30% (+/-)	Yes	Yes
% managed care organizations	0.1	0.0	0.0	-77.50	96.97	30% (+/-)	Yes	Yes
% nursing and custodial care facilities	0.0	0.0	0.0	-10.00	96.97	30% (+/-)	Yes	Yes
% residential treatment facilities	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% respite care facility	0.0	0.0	0.0	Div by 0	Div by 0	30% (+/-)	N/A	N/A
% suppliers	1.3	0.4	0.3	-73.22	-20.55	30% (+/-)	Yes	Yes
% transportation services	0.1	0.1	0.0	-54.62	-34.34	30% (+/-)	Yes	Yes
% nonmedical	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Individual</b>								
Number of provider IDs with entity type = individual	1,694	1,948	1,792	14.99	-8.01	30% (+/-)	Yes	Yes
% a sole proprietorship	16.8	16.5	16.9	-2.06	2.27	30% (+/-)	Yes	Yes
% not a sole proprietorship	80.8	82.2	82.1	1.84	-0.12	30% (+/-)	Yes	Yes
% not answered	2.4	1.3	1.0	-46.98	-21.71	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Organization</b>								
Number of provider IDs with entity type = organization	3,359	3,693	3,894	9.94	5.44	30% (+/-)	Yes	Yes
% organization is a subpart	12.0	12.0	13.3	-0.24	10.93	30% (+/-)	Yes	Yes
% organization is not a subpart	80.8	82.5	81.1	2.05	-1.67	30% (+/-)	Yes	Yes
% not answered	7.2	5.6	5.6	-22.58	1.29	N/A	N/A	N/A

Source: Medicaid Analytic eExtract (MAX) Provider Characteristics Files, 2009-2011.

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b "Yes" signifies that either (1) the percent change between 2010 and 2011 is within the cross-year expected range or (2) both the 2010 and the 2011 values are less than 10. "No" signifies that both (1) the percent change between 2010 and 2011 is over or under the cross-year expected range and (2) either the 2010 or the 2011 value is greater than 10.

2009-2011 MAX All Provider Characteristics Validation Table  
 State: MO  
 Produced: 05/20/2013

Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
<b>All Providers</b>								
Number of provider IDs	101,554	103,770	108,690	2.18	4.74	30%(+/-)	Yes	Yes
% billing provider on IP claim	0.5	0.5	0.4	4.33	-8.38	N/A	N/A	N/A
% NPI billing provider on IP claim	0.4	0.4	0.4	-5.24	-8.92	N/A	N/A	N/A
% billing provider on LT claim	0.5	0.5	0.5	-2.30	-4.39	N/A	N/A	N/A
% NPI billing provider on LT claim	0.5	0.5	0.5	-1.49	-1.20	N/A	N/A	N/A
% billing provider on OT claim	12.3	12.3	11.3	-0.02	-8.67	N/A	N/A	N/A
% servicing provider on OT claim	45.0	46.0	48.7	2.32	5.92	N/A	N/A	N/A
% NPI servicing provider on OT claim	11.8	11.3	10.5	-3.49	-7.70	N/A	N/A	N/A
% billing provider on RX claim	2.8	2.8	2.7	-1.45	-4.05	N/A	N/A	N/A
% prescribing provider on RX claim	38.1	39.0	37.8	2.43	-3.12	N/A	N/A	N/A
% NPI billing provider on RX claim	3.9	2.6	2.5	-32.70	-5.49	N/A	N/A	N/A
% billing provider	13.9	13.9	12.7	-0.38	-8.37	N/A	N/A	N/A
% NPI billing provider	4.7	3.4	3.2	-27.70	-5.22	N/A	N/A	N/A
% servicing provider	45.0	46.0	48.7	2.32	5.92	N/A	N/A	N/A
% NPI servicing provider	11.8	11.3	10.5	-3.49	-7.70	N/A	N/A	N/A
% prescribing provider	38.1	39.0	37.8	2.43	-3.12	N/A	N/A	N/A
% provider IDs with NPI	49.0	52.9	53.7	8.07	1.54	30%(+/-)	Yes	Yes
% provider IDs linked to NPPES	35.8	35.8	34.3	-0.09	-4.10	30%(+/-)	Yes	Yes
% provider IDs with or without NPI but linked to state provider file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
average number of claims	1,544.2	1,676.0	1,602.0	8.53	-4.42	30%(+/-)	Yes	Yes
average number of beneficiaries with claims	190.5	221.6	210.4	16.36	-5.08	30%(+/-)	Yes	Yes
<b>Provider IDs with NPI</b>								
Number of provider IDs with NPI	49,724	54,910	58,401	10.43	6.36	30%(+/-)	Yes	Yes
% NPI source = MSIS	91.8	91.9	93.0	0.09	1.13	30%(+/-)	Yes	Yes
% NPI source = NPPES	8.2	8.1	7.0	-1.02	-12.84	30%(+/-)	Yes	Yes
% NPI source = state cross-reference file	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs Linked to NPPES</b>								
Number of provider IDs linked to NPPES	36,357	37,116	37,281	2.09	0.44	30%(+/-)	Yes	Yes
% linked via NPI	88.8	88.0	89.0	-0.89	1.05	30%(+/-)	Yes	Yes
% linked via Medicaid legacy provider ID	11.1	11.9	11.0	7.21	-7.80	30%(+/-)	Yes	Yes
% linked via Medicare UPIN	0.1	0.0	0.0	-23.08	20.70	30%(+/-)	Yes	Yes
% with name prefix	10.5	10.1	9.3	-3.51	-7.63	30%(+/-)	Yes	Yes
% with first name	17.8	17.5	16.3	-1.48	-7.09	30%(+/-)	Yes	Yes
% with middle name	14.8	14.6	13.5	-1.58	-7.62	30%(+/-)	Yes	Yes
% with last name	17.8	17.5	16.3	-1.48	-7.09	30%(+/-)	Yes	Yes
% with name suffix	0.6	0.6	0.6	-2.51	-9.44	30%(+/-)	Yes	Yes
% male	11.5	11.2	10.2	-2.73	-8.80	30%(+/-)	Yes	Yes
% female	6.3	6.3	6.1	0.78	-4.08	30%(+/-)	Yes	Yes
% with credential	17.1	16.9	15.7	-1.21	-7.29	30%(+/-)	Yes	Yes
% with business name	82.2	82.2	83.6	-0.08	1.73	30%(+/-)	Yes	Yes
% with address line 1	100.0	99.7	99.9	-0.33	0.18	30%(+/-)	Yes	Yes
% with city	100.0	99.7	99.9	-0.33	0.18	30%(+/-)	Yes	Yes
% with state	100.0	99.7	99.9	-0.33	0.18	30%(+/-)	Yes	Yes
% state = claim file state code	82.3	83.4	83.3	1.40	-0.12	30%(+/-)	Yes	Yes
% with zip code	100.0	99.7	99.9	-0.33	0.18	30%(+/-)	Yes	Yes
% with primary taxonomy	98.5	97.8	98.0	-0.75	0.18	30%(+/-)	Yes	Yes

Source: Medicaid Analytic eExtract (MAX) Provider Characteristics Files, 2009-2011.

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2009-2011 MAX All Provider Characteristics Validation Table  
 State: MO  
 Produced: 05/20/2013

Measure	2009 Value	2010 Value	2011 Value	% Change 2009-2010	% Change 2010-2011	Cross Year Expected Range	Cross Year 2009-2010 Within Range <sup>a</sup>	Cross Year 2010-2011 Within Range <sup>a</sup>
% with provider entity type = individual	17.8	17.5	16.3	-1.48	-7.09	30%(+/-)	Yes	Yes
% with provider entity type = organization	82.2	82.2	83.6	-0.08	1.73	30%(+/-)	Yes	Yes
<b>Provider IDs with or without NPI but linked to state provider file</b>								
Number of provider IDs with or without NPI linked to state provider file	0	0	0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs with NPPES Primary Taxonomy</b>								
Number of provider IDs with NPPES primary taxonomy	39,504	36,301	36,528	-8.11	0.63	30%(+/-)	Yes	Yes
% individual or group of individuals	60.2	53.0	53.1	-11.99	0.31	30%(+/-)	Yes	Yes
% allopathic and osteopathic physicians	41.4	37.7	37.8	-9.00	0.37	30%(+/-)	Yes	Yes
% behavioral health and social service providers	4.4	5.3	5.5	19.33	3.51	30%(+/-)	Yes	Yes
% chiropractic providers	0.3	0.3	0.3	4.84	-6.94	30%(+/-)	Yes	Yes
% dental providers	1.3	1.4	1.4	13.80	-1.16	30%(+/-)	Yes	Yes
% dietary and nutritional service providers	0.0	0.0	0.0	-46.67	-100.00	30%(+/-)	Yes	Yes
% emergency medical service providers	0.1	0.1	0.1	-20.15	-28.36	30%(+/-)	Yes	Yes
% eye and vision service providers	1.8	1.9	1.9	7.02	-3.61	30%(+/-)	Yes	Yes
% nursing service providers	0.1	0.1	0.1	3.51	11.36	30%(+/-)	Yes	Yes
% nursing service-related providers	0.5	0.3	0.3	-35.31	-4.27	30%(+/-)	Yes	Yes
% other service providers	1.4	2.0	1.9	44.30	-2.00	30%(+/-)	Yes	Yes
% pharmacy service providers	0.2	0.3	0.3	51.10	-3.44	30%(+/-)	Yes	Yes
% physician assistants and advanced practice nursing providers	4.3	1.5	1.5	-64.47	-0.11	30%(+/-)	Yes	Yes
% podiatric medicine and surgery service providers	0.8	0.9	0.9	5.33	3.66	30%(+/-)	Yes	Yes
% respiratory, developmental, rehabilitative, and restorative service providers	0.5	0.6	0.6	7.75	-0.58	30%(+/-)	Yes	Yes
% speech, language, and hearing service providers	0.5	0.5	0.4	-7.82	-2.99	30%(+/-)	Yes	Yes
% student health care	0.0	0.0	0.0	-15.00	61.04	30%(+/-)	Yes	Yes
% technologists, technicians, and other technical service providers	0.0	0.0	0.0	20.00	29.28	30%(+/-)	Yes	Yes
% group of individuals with multi- or single specialty	2.5	0.0	0.0	-100.00	Div by 0	30%(+/-)	Yes	N/A
% nonindividuals	39.8	47.0	46.9	18.12	-0.35	30%(+/-)	Yes	Yes
% agencies	7.9	9.5	9.5	20.70	0.27	30%(+/-)	Yes	Yes
% ambulatory health care facilities	8.6	14.1	13.7	63.55	-2.66	30%(+/-)	No	Yes
% hospital units	0.1	0.1	0.1	0.70	3.38	30%(+/-)	Yes	Yes
% hospitals	3.2	3.8	3.7	19.04	-0.99	30%(+/-)	Yes	Yes
% laboratories	0.7	0.9	0.9	28.86	6.53	30%(+/-)	Yes	Yes
% managed care organizations	0.1	0.1	0.1	35.85	14.07	30%(+/-)	Yes	Yes
% nursing and custodial care facilities	3.4	3.8	3.9	14.39	1.38	30%(+/-)	Yes	Yes
% residential treatment facilities	3.3	2.4	2.4	-26.90	-1.54	30%(+/-)	Yes	Yes
% respite care facility	0.0	0.1	0.1	117.86	-1.27	30%(+/-)	Yes	Yes
% suppliers	11.4	10.9	11.1	-4.36	1.40	30%(+/-)	Yes	Yes
% transportation services	1.2	1.3	1.3	13.86	-1.45	30%(+/-)	Yes	Yes
% nonmedical	0.0	0.0	0.0	Div by 0	Div by 0	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Individual</b>								
Number of provider IDs with entity type = individual	6,464	6,501	6,067	0.57	-6.68	30%(+/-)	Yes	Yes
% a sole proprietorship	34.5	36.7	38.3	6.38	4.24	30%(+/-)	Yes	Yes
% not a sole proprietorship	57.2	57.4	56.4	0.43	-1.83	30%(+/-)	Yes	Yes
% not answered	8.3	5.9	5.4	-29.40	-8.55	N/A	N/A	N/A
<b>Provider IDs with Entity Type = Organization</b>								
Number of provider IDs with entity type = organization	29,893	30,494	31,161	2.01	2.19	30%(+/-)	Yes	Yes
% organization is a subpart	14.0	14.4	14.7	3.17	2.14	30%(+/-)	Yes	Yes
% organization is not a subpart	67.8	71.9	72.5	6.11	0.81	30%(+/-)	Yes	Yes
% not answered	18.2	13.7	12.8	-25.12	-6.51	N/A	N/A	N/A

Source: Medicaid Analytic eXtract (MAX) Provider Characteristics Files, 2009-2011.

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