NC RHRP

Findings Brief
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Identifying Rural Health Clinics in Medicaid Data

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BACKGROUND

In 1977, Public Law 95-210 created the Rural Health Clinic (RHC) Medicare and Medicaid reimbursement designation for qualified primary care practices. RHCs must be located in non-urban areas with documented health care shortages. There are currently more than 4,100 RHCs across the U.S.[1] Some RHCs operate as independent medical practices, while others are part of a hospital-owned system or other health care organization. RHCs are statutorily required to have a nurse practitioner, physician assistant or certified nurse-midwife available for at least 50% of clinic operating hours.

Much less is known about patients of RHCs than about patients of other providers, such as Federally Qualified Health Centers (FQHCs). Previous research conducted by the North Carolina Rural Health Research Program analyzed Medicare claims data to learn more about RHCs and Medicare beneficiaries, including comparisons to rural and urban FQHCs.[2, 3] Conducting similar research for Medicaid enrollees has been more difficult. Unlike federally managed Medicare claims, Medicaid claims are managed by states, and state-to-state differences in identification and treatment of RHCs in claims data make it difficult to conduct national analyses. To better understand Medicaid enrollees' utilization of RHCs, the North Carolina Rural Health Research Program identified and tested several methods for identifying RHCs in Medicaid claims data. This brief describes and compares different methods to identify RHCs in the Medicaid claims of four states.

KEY FINDINGS

- Claims-based payment data are important for the analysis of Rural Health Clinics (RHCs) use by Medicaid beneficiaries. However, valid identification of such claims can be a complex process.
- Six potential methods of identifying RHCs in Medicaid claims are enumerated. The most feasible method of identifying RHC claims in Medicaid data may be the combined use of the provider specialty, type of program, and place of service codes.
- The recommended method should assist policy makers and researchers who are attempting to use Medicaid data to answer health policy questions related to RHCs.

METHODS

State data from North Carolina, Georgia, California and Texas were drawn from the Centers for Medicare and Medicaid Services' (CMS) Medicaid Analytic Files Extract (MAX) data system. These states represent a cross-section of rural states. Furthermore, these states' data have been used previously in other research by the study team and were available at relatively low cost. MAX data compiles Medicaid enrollment and claims data from states and provides extensive cleaning and reorganization, and thus may vary from Medicaid claims available directly from state data systems, although, the source fields (variables and underlying data) should be comparable.

MAX organizes Medicaid-paid claims into one of four categories: inpatient claims, long-term care claims, prescription drug claims, and other services—which includes all claims that do not fit into the first three categories, including outpatient and ambulatory services, as well as home health, laboratory, x-ray, dental, transportation and other claims. We examined claims from the other services (OT) file to focus on outpatient and ambulatory claims.

RESULTS

No single method for identifying all RHC Medicaid claims exists. We describe six methods of identifying RHC Medicaid claims, include the specific coding used in MAX data where appropriate, and provide an overview of each.

I. **Method 1: Provider Specialty Code**: A standardized coding scheme that is used across states does not currently exist. Some states include RHC as a specialty type, while others do not. In states that include RHCs as a provider specialty type, this is selected by billing providers and can vary over time in ways that may or may not reflect actual changes in RHC status (e.g., a clinic can bill some claims as an RHC and other claims as a multi-specialty clinic).

II. **Method 2: Type of Program (TOP) Code**: This is an optional code that can be used to indicate whether services were funded under a special program, such as the RHC program (MAX TOP=3 indicates RHC funding). Using this code in isolation will exclude other services provided in RHCs.

III. **Method 3: Place of Service (POS) Code**: This is a code indicating where a service was performed. RHC is one of the options (MAX POS=72 is in an RHC). Using this code in isolation from other codes will exclude services provided in other locations.

IV. **Method 4: Medicaid Billing ID**: A list of CMS Certification Numbers (CCNs) for RHCs identified using the last four digits on facility type were generated using the CCN list from CMS (3800-3974 and 8900 -8999 are Free-standing Rural Health Clinics; 3975-3999 and 8500-8899 are Provider-Based Rural Health Clinics). Prior to 2009, each state used their own system of Medicaid provider identifiers. Some states used Medicare-based systems such as Online Submission and Compilation of Availability Records (OSCAR) or CCNs, while others developed homegrown codes. The CCN list of RHCs only merges to the Medicaid Billing provider in some states (one out of four in our sample states; North Carolina). Beginning in 2009, states began phasing the national system of provider identifiers (NPI) into their Medicaid claims. In practice, we find that some states are including the prior Medicaid Billing identifier system in the NPI fields, while other states are reporting NPI in both the NPI and the Medicaid Billing ID fields. Additional identifiers were obtained for RHCs in the CCN list from CMS's National Plan & Provider Enumeration System (NPPES) in all years.

V. **Method 5: Taxonomy Code in MAX**: Beginning in 2009, CMS began providing a Taxonomy code in the MAX data, which was derived by merging with the NPPES file on NPI. Only a single taxonomy code was derived for the MAX data. In our experience and based on communication from the MAX data custodians,[4] this field may not be very useful for identifying RHC claims.

VI. **Method 6: National Provider Identifiers Coded as RHCs**: The NPPES allows providers to select one or more taxonomy codes to describe their specialty or clinic type, and one of the options is an RHC. However, because of the difficulties described above with the NPI field, merging post-2009 claims by NPI to the NPPES file results in limited success and varies substantially by state.

Table 1 provides the annualized number of unique Medicaid claims and resulting total Medicaid dollars from the four sample states using each method in isolation, for years 2006-2008 (prior to NPI) and 2009-2010. For Methods 1-4, Table 1 reports the number of unique claims and total expenditures when only the single Method is used, without regard to the value of the other Methods. The first rows (labeled by method number) of the two panels report the number of claims and total expenditures for claims that meet at least one of the available Methods for each time period (Methods 1 -4 for 2006-2008; and Methods 1-6 for 2009-2010). The row labeled "Claim meets at least one of the above methods" in each panel report the number of claims and resulting expenditures that meet any of the Methods for each time period. This results in the largest possible number of RHC claims that are considered reliable. The final row in each of the two panels of Table 1 reports the number of claims and associated expenditures if only Methods 1-3 are used, since Methods 4-6 require additional information not available in claims data. By comparing the final row to the row above it, one can assess whether there is a gain from having the additional information required by Methods 4-6.

Specialty codes only identify claims in two of the four states (North Carolina and Texas), due to the lack of a code for RHCs in one state and missing specialty codes in the other state. Type of Program (TOP) and Place of Service (POS) codes demonstrate substantial variability in identifying RHC claims. Using pre-2009 data, TOP generates more RHC claims in most states, ranging from a low of 21.2% of all RHC claims identified by Methods 1-4 in Georgia to a high of 99.2% of claims identified in North Carolina. These numbers decrease somewhat using more recent data due to the

Table 1: Number of Unique Claims and Total Expenditures Meeting Criteria for Each Method, by State and Time Period, Annualized

2006-2008 Methods Data Panel	North Carolina	Georgia	California	Texas
Method 1: Specialty code only				
Claims	536,461	0	0	679,275
Proportion of all RHC claims	70.0%	0.0%	0.0%	63.1%
Expenditures	$3,211,225	$0	$0	$52,374,063
Method 2: Type of Program (TOP) only				
Claims	760,028	42,734	1,956,142	685,770
Proportion of all RHC claims	99.2%	21.2%	85.7%	63.7%
Expenditures	$14,834,697	$2,011,038	$193,162,725	$52,363,733
Method 3: Place of Service (POS) only				
Claims	66,388	145,778	2,182,704	663,413
Proportion of all RHC claims	8.7%	72.4%	95.6%	61.6%
Expenditures	$3,551,995	$5,848,920	$231,751,919	$52,374,063
Method 4: Medicaid Billing ID to CCN list				
Claims	636,148	61,538	713,133	594,608
Proportion of all RHC claims	83.0%	30.5%	31.2%	55.2%
Expenditures	$12,513,634	$1,150,530	$80,565,605	$36,730,896
Claim meets at least one of the above methods				
Claims	766,426	201,462	2,283,281	1,076,489
Proportion of all RHC claims	100%	100%	100%	100.0%
Expenditures	$15,623,024	$6,886,627	$239,736,522	$73,096,836
Claim meets at least one of Methods 1-3				
Claims	763,294	161,342	2,182,704	694,917
Proportion of all RHC claims	99.6%	80.1%	95.6%	64.6%
Expenditures	$15,162,342	$6,493,976	$231,751,919	$52,374,087

2009-2010 Methods Data Panel	North Carolina	Georgia	California	Texas
Method 1: Specialty code only				
Claims	781,877	0	0	725,141
Proportion of all RHC claims	73.3%	0.0%	0.0%	84.2%
Expenditures	$4,017,910	$0	$0	$57,889,173
Method 2: Type of Program (TOP) only				
Claims	717,716	51,744	2,584,257	749,704
Proportion of all RHC claims	67.3%	24.5%	84.0%	87.1%
Expenditures	$14,556,176	$1,781,931	$258,679,531	$57,846,479
Method 3: Place of Service (POS) only				
Claims	66,134	178,998	2,917,892	728,434
Proportion of all RHC claims	6.2%	84.6%	94.9%	84.6%
Expenditures	$3,811,230	$4,910,246	$305,493,873	$57,889,143
Method 4: Medicaid Billing ID to CCN list				
Claims	716,496	36,583	86,849	4,678
Proportion of all RHC claims	67.2%	17.3%	2.8%	0.5%
Expenditures	$18,964,242	$1,083,542	$4,635,254	$337,491
Method 5: Taxonomy from MAX files				
Claims	194,876	86,134	378,329	650,453
Proportion of all RHC claims	18.3%	40.7%	12.3%	75.6%
Expenditures	$10,708,017	$2,220,318	$64,280,034	$61,482,740
Method 6: NPI matched to NPPES files posthoc				
Claims	70,116	56,526	1,391,885	552,743
Proportion of all RHC claims	6.6%	26.7%	45.3%	64.2%
Expenditures	$3,055,620	$1,505,041	$172,999,076	$53,116,906
Claim meets at least one of the above methods				
Claims	1,066,353	211,559	3,075,426	860,952
Proportion of all RHC claims	100%	100%	100%	100.0%
Expenditures	$22,466,166	$5,914,859	$316,435,813	$69,400,910
Claim meets at least one of Methods 1-3				
Claims	1,016,019	190,552	2,917,892	770,050
Proportion of all RHC claims	95.3%	90.1%	94.9%	89.4%
Expenditures	$16,884,543	$5,408,816	$305,493,873	$57,889,881

greater number of identifiers possible beginning in 2009. Place of Service yields a lower proportion of RHC claims than does TOP in two states (North Carolina and Texas) and a higher proportion in the other two states (Georgia and California), which does not change over time. Combined, the first three methods (which are self-contained in the MAX data and do not require mergers to other sources of data) identify the vast majority (96-99%) of RHC claims in two states (North Carolina and California) and a lower proportion of claims (65-80%) in the other two states (Georgia and Texas). Using 2009-2010 data, Methods 1-3 increase the proportion of RHC claims identified to be between 89-95% of all RHC claims across all four states. In the later years of data, using the taxonomy code in the MAX file only identifies between 12-76% of RHC claims. However, the vast majority (95-99%) of these RHC claims are also identified by the other methods, thus taxonomy codes add very little to determining the universe of RHC claims. In addition, the reliability of this variable to identify RHCs (Method 5) has been questioned by others,[4] and it yields a low match rate; therefore, we cannot recommend its use in isolation of other identifiers. Similarly, identifying RHCs post-hoc through the NPPES data taxonomy fields (Method 6) yields a low identification rate, ranging between 7-64%, and, therefore, we do not advocate its use as a singular method.

CONCLUSION

To identify RHC claims and services from Medicaid data, at a minimum, we suggest using the combination of Methods 1-3, which use the TOP, POS, and specialty codes and will capture the majority of RHC claims, especially in more recent years of data. If programming and data resources include the ability to obtain additional external data on RHCs identified by CCNs and merged using CCN and other identifiers obtained from NPPES, then the number of RHC identified claims can be increased, but only modestly. If only RHC stream funding is desired, Method 2: TOP should likely be used. For identification of services delivered only in bricks-and-mortar RHCs, either POS or specialty code matches should be used (Methods 1 & 3), depending on the state.

REFERENCES AND NOTES

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