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New Insights on Medicaid Spending

An Analysis of Disaggregated Managed Care Spending

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Table of Contents

Executive Summary....3
Introduction and Statement of Purpose....5
Methodology....7
Conclusion....10
Appendix A: Detailed Methodology....11
Appendix B: Grouping of Federal Category of Service Codes into HMA Categories of Spend....14

EXECUTIVE SUMMARY

Medicaid is a federal/state health insurance program that served more than 86 million lower-income people in fiscal year (FY) 2021. The combined federal and state spending for Medicaid totaled $717 billion that year, $420 billion of which was spent on providing care to Medicaid managed care organization (MCO) members, and $297 billion on services provided to fee-for-service enrollees.

- While the role of managed care in Medicaid has grown tremendously over the past decade, with MCOs covering nearly three-quarters of Medicaid enrollees, detailed cost information has not been estimated for the people with MCO coverage. These data historically have been available only for fee-for-service (FFS) Medicaid because of limitations on federal data sources.
- This lack of data blocks our understanding of the relative magnitude of the cost drivers in the program and contributes to an uninformed debate about policy reforms to control the growth of spending and improve quality of care.
- Obtaining and using cost data by provider type for MCOs can help answer questions such as how much funding do MCO enrollees with diabetes, asthma, and/or hypertension consume? Of these patients, how many also have behavioral health conditions? How many MCO enrollees have six or more emergency department (ED) visits during a year and/or multiple inpatient hospital stays, and what does their resource consumption look like?

Health Management Associates (HMA) has developed a reliable methodology that can be applied to all 50 states, which approximates spending for the major categories of health services that MCOs cover, including: inpatient and outpatient hospital care, physician and other professional services, skilled nursing facilities, clinics, pharmaceuticals, and other services. HMA can determine prices for these services, which, combined with data on the number of encounters, yields reliable cost figures. These cost estimates will be useful in identifying unmet medical needs, gaps in our delivery systems, and areas of high spending where efficiencies and timely care management can be added to slow the growth in total health spending.

- Professional fees are the lead spending category, with more than 25 percent of spending directed toward payments to physicians and other practitioners (e.g., physician assistants, nurse practitioners). Given that T-MSIS data are built around billing codes, services that traditionally may be considered part of a bundled rate (e.g., a large portion of physician services delivered in hospitals and clinics) are essentially unbundled and considered professional fees.
- The sum of hospital spending—inpatient plus outpatient—skilled nursing facility costs, and professional fees, taken together, accounted for more than 60 percent of spending in FY 2021.
- One of the pressure tests for the disaggregation methodology was in the pharmacy grouping because the Centers for Medicare & Medicaid Services (CMS) Quarterly Medicaid Statement of Expenditures for the Medical Assistance Program (CMS-64) and the Drug Rebate file provide timely and detailed public domain checks for validation. The Transformed Medicaid Statistical Information System (T-MSIS) methodology calculated pharmacy spending at 7.9 percent of total spending, whereas the CMS-64 and CMS Drug Rebate file calculates it at 6.1 percent of total Medicaid spending. Both approaches included medical benefit spending and subtracted drug rebates. Though the CMS-64 and CMS Drug Rebate file is more reliable, it is notable that both methodologies were within 2 percentage points of each other.

INTRODUCTION AND STATEMENT OF PURPOSE

Healthcare researchers, providers and purchasers, and public policymakers are unable to obtain timely and reliable cost data by provider type for Medicaid managed care organizations (MCOs), even though MCO spending in fiscal year (FY) 2021 accounted for $420 billion of the $717 billion in federal and state expenditures combined. Consequently, policymakers are left in the dark about actual spending, leading to uninformed and sometimes irrational policy debates and decisions.

Unlike fee-for-service (FFS) Medicaid, which accounted for the remaining $297 billion in Medicaid spending during FY 2021, federal data on MCOs provide only encounter data that show the number of office visits, hospital stays, prescriptions, outpatient visits and other major categories of services. Depending on state policies, the profile of members in an FFS plan may look much different than that of people enrolled in MCOs. They may be disproportionately children, dually eligible people, or individuals in long-term care. Therefore, it is critical to assess and calculate MCO spending separately from FFS expenditures rather than assume that the same trends apply to both groups.

This paper is intended to start the process of filling this void. Health Management Associates (HMA) has developed a careful and reliable methodology to impute claims for managed care spending. Combining encounter data with imputed claims data allows us to calculate costs and put Medicaid managed care on a par with Medicaid FFS in terms of understanding the specific and major cost drivers.

Our work can also set the stage for analyses and comparisons of cost categories by variables such as eligibility category (e.g., duals, children, parents, adults without children, the Medicaid expansion population, and those who are designated as aged, frail, and disabled); race and ethnicity; frequent users of hospital services; and people with multiple chronic illnesses. This analysis can pinpoint areas of high need within the Medicaid population. When this analysis is done, we will be able to answer fundamental questions about the Medicaid program, such as:

- How much do we spend on services for people with diabetes?
- How much do we spend during childbirth/first year of life and in the last year of life?
- How much do we spend for dual eligibles?

Despite the size of Medicaid spending, few insights are available on the allocation of those funds.

The Centers for Medicare & Medicaid Services (CMS), which has federal authority over the Medicaid program, tracks state expenditures through an automated budget and expenditure system. This system allows states to report budgeted and actual expenditures for Medicaid and CHIP (the Children's Health Insurance Program) by electronically submitting form CMS-64 directly to the agency.

CMS-64 provides a breakdown of Medicaid spending by state and nationally but lumps more than half of the $717 billion spent into a single Medicaid MCO category. This limited view offers little insight into spending on Medicaid benefits and services delivered through Medicaid MCOs. The lack of data leads to uninformed and, too often, irrational policy debates, considerations, and actions.

The T-MSIS Dataset offers the most comprehensive view of Medicaid spending and encounters available.

CMS's Transformed Medicaid Statistical Information System (T-MSIS) collects Medicaid and CHIP data from US states, territories, and the District of Columbia, making it the largest national resource on member information. T-MSIS contains complete Medicaid claims and encounter data for 2016 to 2022. Individual states typically submit claims files to T-MSIS monthly, and these records are compiled into an annual dataset, which CMS makes available to researchers each year.

METHODOLOGY

Background: The lack of spending data associated with MCO claims documented in T-MSIS limits researchers' abilities to perform most Medicaid cost analyses. By the end of this project, we will be able to attach a cost to most claim lines in T-MSIS. The T-MSIS claims dataset is divided into four major files, each of which contains different types of claims, including those for inpatient, long-term care (LTC), pharmacy, and other services. Given that the structure and data elements present vary, we used different methodologies to attach dollar values to claims in each file.

Inpatient Claims: Reimbursement for inpatient services is largely dependent on the diagnosis-related group (DRG) indicated on the claim. Therefore, we calculated an average dollars paid per day for all FFS inpatient claims in a state and used that amount multiplied by length of stay to determine dollar amounts for managed care encounters.

Pharmacy Claims: For pharmacy claims, we used the National Average Drug Acquisition Cost (NADAC) to impute dollar values. Figure 1 is exclusive of rebate dollars because states and the federal government directly receive those revenues back. Figure 2 further clarifies pharmacy spending by providing a pressure test of the methodology from a different CMS data set.

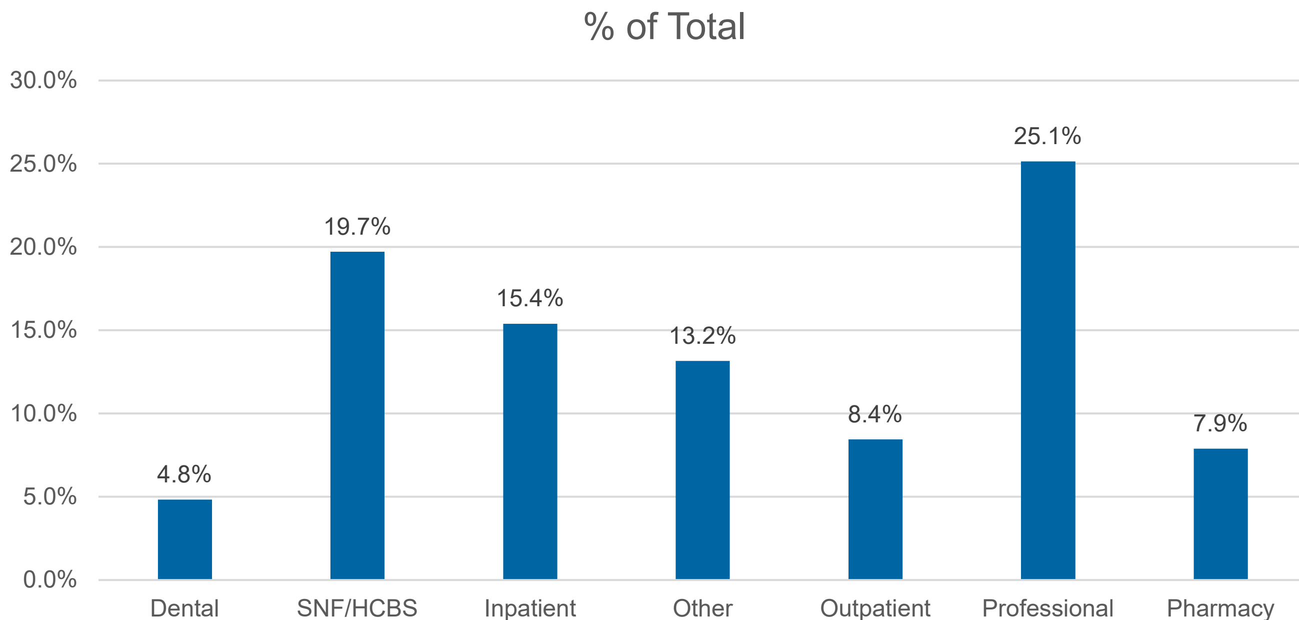
Other Claims: The other claims file is the largest and most complex in T-MSIS because it contains a large variety of claims—from physician claims to outpatient claims to durable medical equipment (DME) claims. Because of the availability of Medicare fee schedule data and procedure codes in the claims to calculate Medicare reimbursement for the services in this file, we have decided to use the various Medicare Part B fee schedules to arrive at the costs of these claims.

Long-Term Care Claims: We used the same approach calculating LTC claims as we did for inpatient claims, calculating a daily rate using FFS claims to determine costs. Occasionally a daily rate value is populated for managed care encounters, and where present, we used this figure instead of the calculated daily rate.

Aggregation by Provider Type: To assign a provider type to a claim, we used the federal category of service code available on all claims header files in T-MSIS. We chose this method over others as it is a variable assigned by CMS and therefore is free of any state-by-state variations in how different services are categorized. The variable is assigned based on the bill type code, revenue codes, provider taxonomy codes, and procedure codes on a claim. There are 21 possible categories HMA assigns to a claim based on the above criteria, and HMA experts combined several of them to arrive at 13 service categories. Before the final aggregation, we excluded claims with a category of service code of 11 or 12 from our final totals because they correspond to the capitation payments states make to managed care or primary care case management organizations and are redundant with the managed care encounters to which we were attempting to ascribe a cost.

Years and Crosscheck: T-MSIS contains claims from 2016 to 2022 (preliminary). For this analysis, we used 2021 claims as it was the most recent year of completed claims available. As a crosscheck comparison, the T-MSIS total spending amount is within 10 percent of CMS-64 total spending, differing for a variety of reasons.

Figure 1. T-MSIS Medicaid Spending by Service Category 2021 (MCO Disaggregated plus FFS)

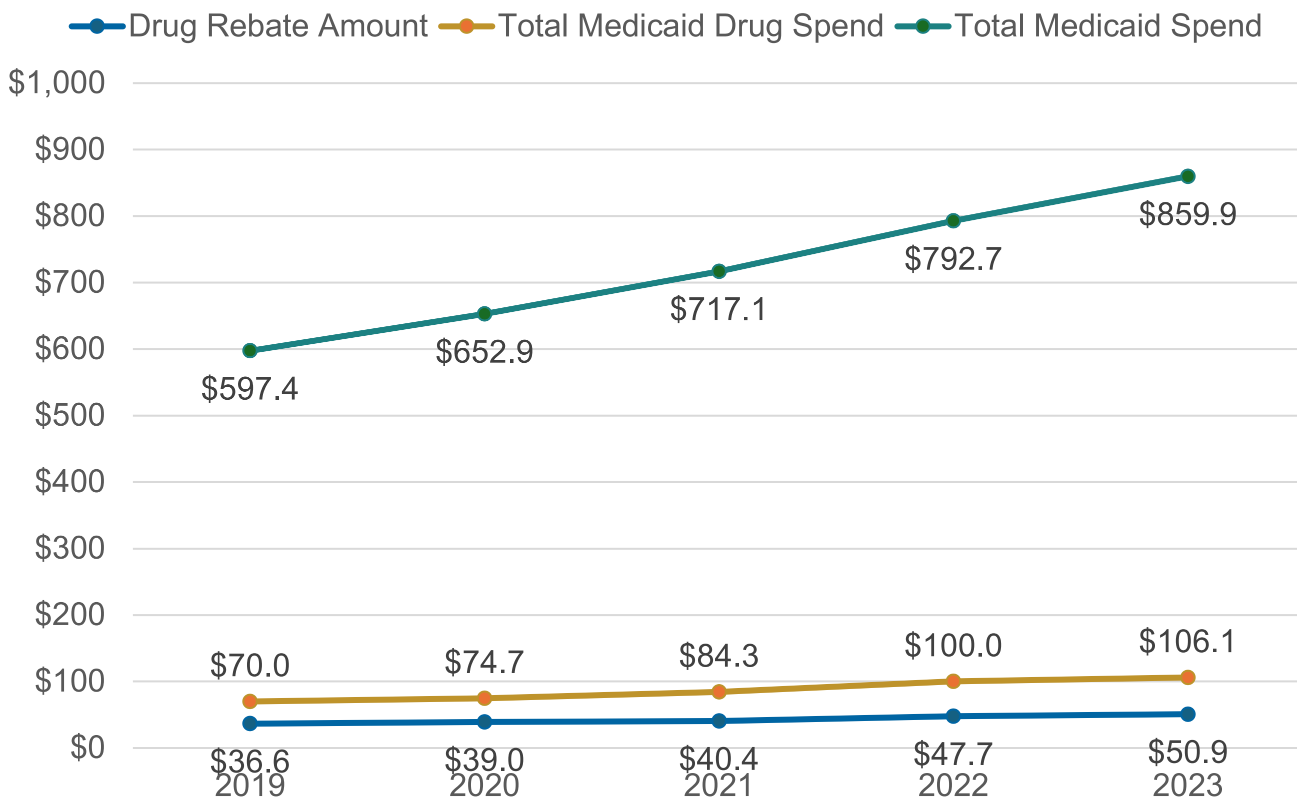


- Professional claims comprise the highest percentage of Medicaid spending in 2021. These include a large portion of fees for office visits and professional provider payments for services provided in inpatient and outpatient settings.
- Inpatient and skilled nursing facilities (SNFs) also both account for a significant proportion of Medicaid spending. The "other" category includes a variety of categories including laboratories, hospice, durable medical equipment, and ambulance.
- Rebates comprise almost 50 percent of drug spending. *Note: Due to the removal of the rebate dollars, the displayed values do not add up to 100 percent. Rebates are removed to reflect the net financial impacts more accurately for states.*
- Figure 1 integrates roughly $5 billion in state-directed payments originating in 2021. The amounts and targets of these payments were sourced from CMS and divided equally if the payment was for multiple service areas. Replicating this analysis for subsequent years is important because the number of state-directed payments has increased substantially to more than $100 billion in 2023−24.[1]
- The overall total Medicaid spending calculated from T-MSIS was $646 billion. Factors like administrative fees, the medical loss ratio, and the time period (i.e., calendar year 2021 versus FY 2021) contribute to the difference in the CMS-64 reported value of $717 billion.

[1] Medicaid and CHIP Payment Advisory Commission. Directed Payments in Medicaid Managed Care. October 2024. Available at: https://www.macpac.gov/publication/directed-payments-in-medicaid-managed-care/.

During the course of the T-MSIS analysis, we conducted some pressure tests for validation. The CMS-64 was the main pressure test. Although CMS-64 has its limitations given the MCO spending aggregation, it still provides valuable cross-checks as it tracks by state, by provider type spending. We created an additional crosscheck with Figure 2—a multiyear graphic to show total spending and drug spending/rebate collections over time for Medicaid. Because pharmacy spending after rebate observation with the T-MSIS methodology pointed toward a lower percentage relative to the attention it frequently receives in the policy arena, we collected the more timely, detailed, and obtainable public domain resources (i.e., the CMS-64 and CMS Drug Rebate file) to further validate the data. As Figure 2 indicates, pharmacy spending after rebates was 6.1 percent in 2021.[2] Medical benefit spending is included in the data. Therefore, the T-MSIS methodology calculated pharmacy spending at 7.9 percent of total spending, whereas the CMS-64 and CMS Drug Rebate file calculates it at 6.1 percent of total Medicaid spending; that is, within 2 percentage points.

Figure 2. Total Medicaid Spending and Drug Spend, 2019−2023: Billions of Dollars



Source: CMS 64 and CMS Drug Rebate file, medical benefit spending included.

[2] 6.1% calculated by (($84.3.-40.4)/$717.1)

CONCLUSION

Medicaid provides health insurance coverage for 70 million Americans and is a significant line item in state budgets. As the policy discourse turns increased attention toward Medicaid and its spending, understanding the full picture, including managed care spending, is critical.

This information will provide important context for the policy debate, offering a full view of the relative magnitude of the major categories of Medicaid spending. That information, in turn, will be useful in identifying key Medicaid cost drivers and will facilitate an understanding of the important areas of need among Medicaid members. Researchers and policymakers will be able to apply detailed information that is available to all 50 states and identify smart investments at the frontend of the nation's healthcare system—timely primary care, medication management, tests that screen for diseases—which may reduce costs at the backend of care, such as avoidable ED visits and avoidable inpatient hospital admissions and readmissions. We anticipate that this approach will lead to improved health outcomes for Medicaid enrollees, while yielding substantial cost savings for Medicaid plans.

APPENDIX A: DETAILED METHODOLOGY

Limitations

Diagnosis-related group (DRG) codes are missing from many of the claims to which we needed to attach dollar values. Furthermore, the states that submit data to T-MSIS use a variety of DRG systems, making it difficult to calculate an average for each DRG to determine costs.

Inpatient Claims

1. Identify and separate all managed care claims in a given year using the inpatient header file. Claims with a CLM_TYPE_CD equal to 3, C, or W should be flagged as managed care claims. Claims with a CLM_TYPE_CD equal to 1, A, or U will be flagged as fee-for-service (FFS) claims. Remove crossover claims (claims paid for in portion by Medicare).
2. Sum up the total FFS-paid inpatient days and inpatient dollars by state in a given year and divide the two to arrive at an average dollar paid per day for each state.
3. Calculate length of stay for each managed care inpatient encounter.
4. Multiply the length of stay for each managed care inpatient encounter by the state average dollars paid per day to estimate the paid amount for that encounter.

Pharmacy Claims

1. Compare the unit on the claim to the National Average Drug Acquisition Cost (NADAC) unit and convert units if necessary. For example, if the NADAC is in grams, and the claim units are in milligrams, divide claim units by 1,000 to ensure the units match.
2. Multiple the NADAC per unit by the paid units on the claim line to impute a cost for the claim line.
3. Identify and separate all managed care claims in a given year using Rx header file. Claims with a CLM_TYPE_CD equal to 3, C, or W should be flagged as managed care claims. Claims with a CLM_TYPE_CD equal to 1, A, or U will be flagged as FFS claims. Remove crossover claims (claims paid for in portion by Medicare).
4. Join the separated managed care claims from the header file to the line file on the CLM_ID to extract the National Drug Code (NDC) information on the claim.
5. Compare the dispensed and allowed units on the claim line. Whichever value is lower is the paid units for the claim line.
6. Join the combined header and line table to the NADAC table on the NDC.
7. Compare the unit on the claim to the NADAC unit and convert units if necessary. For example, if the NADAC is in grams and the claim units in milligrams, divide claim units by 1,000 to ensure the units match.
8. Multiple the NADAC per unit by the paid units on the claim line to impute a cost for the claim line.

Other Claims

1. Identify and separate all managed care claims in a given year using the Other Therapies header file. Claims with a CLM_TYPE_CD equal to 3, C, or W will be flagged as managed care claims. Claims with a CLM_TYPE_CD equal to 1, A, or U will be flagged as FFS claims. Remove crossover claims (claims paid for in part by Medicare).
2. Join the separated managed care claims from the header file to the line file on the CLM_ID to extract the line level details on the claim.
3. Separate outpatient claims from the remainder of claims. Outpatient claims will be cost imputed using the Medicare average paid values for the given state, whereas other claims will use the respective fee schedules to impute cost.
    a. Join the outpatient claims to addendum B to map the Healthcare Common Procedure Coding System (HCPCS) code on the claim to an ambulatory payment classification (APC) code.
    b. Join the combined outpatient claims file to the Medicare Outpatient Payments file on APC and State to determine the average paid dollars for the service in the state.
4. Join the remaining claims to the ZIP code to the National Plan and Provider Enumeration System on Billing Provider national provider identifier to identify the ZIP code of the provider's primary practice location.
5. Join the remaining claims to the ZIP code to geographic practice cost index (GPCI) mapping table using the first five digits of the ZIP code of the provider's primary practice location. This will give the carrier and locality rates to use for the claim.
6. Compare the actual and allowed units on the claim line. Whichever value is lower is the paid units for the claim line.
7. Separate the remaining claims out by HCPCS code into five categories: ambulance, anesthesia, clinical lab, durable medical equipment (DME), and professional.
    a. For ambulance claims: Join the claims file to the fee schedule using procedure code, locality, and carrier. Use the rurality indicator from the ZIP code to GPCI mapping table to determine whether to use the urban, rural, or super rural rates on the fee schedule to cost impute. Multiply paid units on the claim by the appropriate rate to assign cost.
    b. For anesthesia claims: Join the claims file to the fee schedule using the procedure code, locality, and contractor/carrier ID. Divide the paid units by the base unit rate, round down to the nearest whole number, and multiply that amount by the conversion factor to impute cost.
    c. For clinical lab claims: Join the claims file to the fee schedule using procedure code and the claims from date. Multiply paid units for the claim by the rate to impute cost.
    d. For DME claims: Join the claims file to the fee schedule using the first five digits of the provider ZIP code, which will identify rural ZIP codes. Join to the fee schedule using the state code and HCPCS code. If the provider ZIP code is rural, cost impute using the rural base rate or use the non-rural base rate to cost impute.

e. For professional claims: Join the claims file to the fee schedule using the procedure code, locality, and contractor/carrier ID. Multiple the paid units for the claim by the non-facility fee schedule amount to impute cost.

Long-term Care Claims

1. Identify and separate all managed care claims in a given year using the long-term care (LTC) header file. Claims with a CLM_TYPE_CD equal to 3, C, or W will be flagged as managed care claims. Claims with a CLM_TYPE_CD equal to 1, A, or U will be flagged as FFS claims. Remove crossover claims (claims paid for in portion by Medicare).
2. Sum the total FFS-paid LTC days and LTC dollars by state in a given year and divide the two to arrive at an average dollar paid per day for each state.
3. Calculate length of stay for each managed care inpatient encounter.
4. Multiple the length of stay for each managed care LTC encounter by the daily rate value for that encounter where present and the state average dollars paid per day where missing to estimate the paid amount for that encounter.

APPENDIX B: GROUPING OF FEDERAL CATEGORY OF SERVICE CODES INTO HMA CATEGORIES OF SPEND

Code	CMS Definition	HMA Category
11	Managed care capitation payments (comprehensive managed care [CMC], prepaid health plan [PHP])	Excluded
12	Other per member per month payments (primary care case management [PCCM], premium assistance payments, other)	Excluded
13	Disproportionate share hospital claims	Inpatient
14	Other financial transactions	Other
21	Inpatient hospital	Inpatient
22	Nursing facility	SNF
23	Intermediate care	SNF
24	Any other overnight or residential facility	SNF
25	Hospice	Other
26	Outpatient hospital	Outpatient
27	Clinic	Other
28	Any other outpatient facility/institutional claims	Outpatient
31	Radiology	Lab/Radiology
32	Laboratory	Lab/Radiology
33	Home health	HCBS
34	Transportation services	Transportation
35	Dental	Dental

36	Other home and community-based services (HCBS)	HCBS
37	Durable medical equipment	DME
38	Physician and all other professional claims	Physician
41	Prescription drug	Pharmacy

Table 1: Federal Categories of Service codes derived by CMS available in T-MSIS and the HMA spend category to which we mapped each one.