Evaluation of Medical Specialty Medications: Utilization and Management Opportunities

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I. EXECUTIVE SUMMARY

The specialty medication landscape continues to rapidly change with specialty medication costs consuming a larger portion of overall healthcare spending. Specialty medications present a complex challenge to payers as these medications are utilized across the medical and pharmacy benefit and in a variety of settings. Numerous approaches are available to manage specialty costs and utilization; however, no single approach will work for every patient population and benefit program and in many instances, multiple approaches need to be employed.

This study evaluates specialty claim cost and utilization in the medical and pharmacy benefit and opportunities for medication cost savings through channel transition in a commercial (non-Medicare, non-Medicaid) population.

For purposes of this study, we defined medical specialty as specialty medications administered by a healthcare professional in the home, a hospital outpatient facility, or a physician's office and typically covered under the medical benefit. We defined pharmacy specialty as specialty medications dispensed in a retail, mail, or specialty pharmacy, self-administered by the patient and typically covered under the pharmacy benefit.

We relied on the Milliman's *Health Cost Guidelines* (HCG) supporting claims data from 2012 as the basis for our analysis. The Milliman HCGs are based on claims data covering roughly 83 million member months annually (primarily under age 65 commercial group members excluding Medicare, Medicaid, individually insured, and uninsured populations).

HIGHLIGHTS

Channel Transition Strategy

A channel transition strategy targets specialty medications adjudicated under the medical benefit and transitions coverage to the pharmacy benefit where clinically appropriate. Allowed cost savings may be achieved due to the difference in reimbursement strategies under the medical benefit and by site of care (e.g., buy and bill, fee schedule) relative to the pharmacy benefit (e.g., discount basis off Average Wholesale Price (AWP)). Within the medical benefit, the various reimbursement methods may result in higher medication allowed cost per unit values when compared to the pharmacy ingredient cost (i.e., discounted AWP).

Although a medication may be priced and dispensed through a specialty pharmacy, it may then still be administered by a health care provider. However, based on variety of factors (e.g., medication, patient co-morbidities, network/provider accessibility), the site of administration may change. The program targets:

- Self-administered agents (oral, inhaled and injectable)
- Provider administered injectable agents
- Provider administered infused agents

A list of medical specialty medications that could be targeted by this program is included in Appendix A. Due to the broad range of medications targeted, study results were separated by medication administration method and dosage form, with different shift assumptions applied depending on the circumstances. In this study, medical specialty allowed cost represents approximately 6% of a typical commercial health plan cost (roughly $20 per member per month (PMPM) out of $360 PMPM). The medications included in our analysis represent 43% of medical specialty allowed cost. The targeted provider infused agents excluded oncology products, which represents a large portion of the difference.

Self-administered (oral, inhaled and injectable) and provider administered injectable medications represent 16% of medical specialty allowed cost

- The average and median savings projections are 19.7% and 9.7% of medical specialty allowed costs for these products, respectively. This analysis assumes a 90% shift in utilization from the medical benefit to the pharmacy benefit for these products.
- The 25th to 75th percentile savings projection across the contributing health plans included in this study ranged from 3.7% to 23.4%.
- Only 23.0% of allowed costs were incurred in the hospital outpatient setting. However, this site of care represents the largest program savings opportunity, with an average and median savings projection of 34.3% and 28.1%, respectively.

Non-oncology provider administered infused medications represent 27% of medical specialty allowed cost

- The average and median savings projections are 12.3% and 9.7% of medical specialty allowed costs for these products, respectively. A conversion rate of 75% was assumed for provider administered infused medications, lower than that expected for self-administered medications or provider administered injectables.
- The 25th to 75th percentile savings projection across the contributing health plans included in this study ranged from 4.1% to 17.0%.
- 42.5% of infused allowed costs were incurred in the hospital outpatient setting and this site represents the largest program opportunity with an average and median savings projection of 26.0% and 21.2%, respectively.
- Medication administration and evaluation and management (E&M) allowed cost may be reduced by 14.2% to 16.8% in aggregate by shifting the administration of non-oncology infused medications from the outpatient hospital setting to the physician office and home health setting.

Savings projections are calculated at the medication level and not in aggregate. Dispensing fees, manufacturer rebates, patient cost sharing, and assistance programs were not considered in this analysis.

Study Specialty Cost and Utilization

Highlights from the 2012 cost and utilization figures include:

- Approximately 82% of total health care allowed costs were incurred in the medical benefit and 18% were incurred in the pharmacy benefit.

- Approximately 53% of total specialty medication costs were paid under the medical benefit and 47% were paid under the pharmacy benefit.
- Specialty medications represented 6% of medical benefit allowed costs and 24% of pharmacy benefit allowed costs.
- 43% of total medical specialty costs (excluding medications provided during an inpatient admission) were provided in a hospital outpatient setting, 35% were provided in a physician office, and 13% were provided in the patient's home.
- The top ten therapy classes by allowed cost represent 82% of specialty spend in the medical and pharmacy benefit, with Oncology and Autoimmune medications representing approximately half of the medical specialty allowed cost.
- The average allowed cost per unit is higher in the hospital outpatient setting for the top ten Healthcare Common Procedure Coding System (HCPCS) administered in the medical benefit.
- Unclassified or unspecific HCPCS represent 4% of specialty medication costs incurred in the medical benefit.

CAVEATS AND LIMITATIONS

This report was commissioned by CVS Caremark (CVS). The findings reflect the research of the author and Milliman does not intend to endorse any product or organization. If this report is reproduced, we ask that it be reproduced in its entirety, as pieces taken out of context can be misleading. As with any economic or actuarial analysis, it is not possible to capture all factors that may be significant. We relied on the Milliman's HCG supporting claims data from 2012 as the basis for our analysis and did not independently audit the information. If this information is incomplete or inaccurate, our observations and comments may not be appropriate.

The study results provided with this report reflect the list of specialty products shown in Appendix A and the underlying presence of disease states associated with the data sample. We relied on CVS for various information and confirmation of assumptions used in our analysis. Different results would emerge if a different list of specialty products, program conversion rates or other assumptions were used. In addition, specialty allowed costs and utilization may be impacted by material changes to standards of care and pharmacy utilization management programs.

Utilization between the medical and pharmacy benefit may be influenced by health plan policy and/or benefit design and cost sharing requirements. The results shown with this report represent the experience of this data sample, but may not be appropriate for any individual group. Further, the data sample is expected to be representative of a commercially insured group. If the disease states associated with another data sample were materially different, the results would be impacted.

II. INTRODUCTION

The specialty medication landscape continues to rapidly change with the increased development of new specialty medications, increased competition due to generic launches / biosimilars, and more oral and self-injectable options in key therapy classes. As traditional brand (non-specialty) medications lose patent protection, specialty medication costs continue to become an increasing portion of overall medication spend. While medication costs for the majority of members are flat or even decreasing with the wave of new generic launches (e.g. atorvastatin, montelukast, and clopidogrel), the small subset of members utilizing specialty products are facing major cost increases. The 2012 per member per month (PMPM) specialty pharmacy trends reported by Pharmacy Benefit Managers (PBMs) ranged from 18% to 20%[3,4,5]. Further, specialty medication costs are projected to grow 17% to 26% annually through 2015[3,4,5] and may represent up to 50% of all medication spend by the end of the decade[3].

Currently, there are numerous approaches available to reduce specialty costs and utilization. However, these medications treat complex conditions and are available in multiple dosage forms and administration methods. Often times, no single approach will work for every patient population, necessitating the use of numerous strategic approaches in various combinations. Specialty management strategies can focus on various points in the supply chain including purchasing, reimbursement, benefit management and administration of specialty medications. These strategies include the following:

- Re-contract with provider networks to:
  - Provide similar reimbursements for specialty medication claims, regardless of the benefit or place of service
  - Eliminate financial incentives for physicians and hospitals to dispense more expensive medications or use more costly sites of care
  - Acquire specialty medications through a contracted specialty pharmacy
- Move members utilizing provider administered medications to alternate sites of care
- Align member financial incentives to be delivery channel neutral or to encourage use of the lowest cost benefit and site of care
- Shift specialty medication adjudication to the most cost-effective and clinically-appropriate benefit or channel
- Utilize white bagging and brown bagging programs
- Implement traditional utilization management techniques, like step therapies, preferred formulary lists, quantity limits, and prior authorizations
- Develop systems to consolidate and coordinate specialty medication utilization and claims data through the medical and pharmacy benefit
- Improve data capture (e.g., claim accuracy and scope of data) and medication adjudication to allow for timely and accurate specialty medication reporting and analytics across both the medical and pharmacy benefit

III. RESULTS

CVS engaged Milliman to evaluate the financial and clinical implications of specialty management strategies focusing on the lower cost channel (medical or pharmacy) for the provision and adjudication of targeted specialty medications where either channel is clinically appropriate. Specifically, this white paper evaluates the allowed cost savings for a channel transition strategy focusing on managing both the channel and site of care utilized for targeted products.

Keep in mind the estimates included in this report are based on historical health plan claims information, one particular database, and a specific set of assumptions. Results will vary based on a number of factors, including the aggressiveness of specialty utilization management, the current state of specialty benefit management for the organization, and the covered population.

Study results are dependent on each contributing health plan's specialty utilization, reimbursement terms and quality of medical claims. Due to the variability in medical claims quality and reimbursement practices, it is often difficult for payers to evaluate medication cost and utilization in the medical benefit. Additionally, there can be substantially different costs for the same medications depending on the provider and site of administration under the medical benefit. One of the major goals of these transition programs is to limit variability in medication cost and achieve lower costs through more consistent reimbursement and adjudication.

This study reviews the program for the following:

- Potential allowed cost impact
- Targeted therapy classes and medications
- Program design, implementation and communication

This study was based on 2012 claims data for a commercially insured population as reported in Milliman's HCG database. We used this information to develop 2012 specialty medication allowed cost and utilization information across various sites of care under the medical benefit and the pharmacy benefit. Allowed costs represent claim costs at contractual prices prior to reductions for patient cost sharing. The study includes plans with a variety of commercial plan designs (e.g., PPO, HMO, POS).

POTENTIAL ALLOWED COST IMPACT

Channel Transition Strategy

A channel transition strategy targets and shifts the adjudication of specialty medications from the medical benefit to the pharmacy benefit where clinically appropriate. Allowed cost savings may be achieved due to the difference in reimbursement strategies under the medical benefit (e.g., buy and bill or fee schedule) and the pharmacy benefit (e.g., discount basis off AWP). Although a medication may be priced and dispensed through a specialty pharmacy, it may then still be administered by a health care provider. However, based on variety of factors (e.g., medication, patient co-morbidities, network/provider accessibility), the site of administration may also change. The program targets:

- Self-administered agents (oral, inhaled and injectable)
- Provider administered injectable agents
- Provider administered infused agents

A complete list of medical specialty medications targeted by this program is included in Appendix A. Due to the broad range of medications targeted, study results were separated by medication administration method and dosage form, with different shift assumptions applied depending on the circumstances. In this study, medical specialty allowed cost represents approximately 6% (roughly $20 per member per month (PMPM) out of $360 PMPM) of a typical commercial health plan cost.

The medications included in our analysis represent 43% of medical specialty allowed cost. The selected provider infused agents excluded oncology products, which represents a large majority of the difference.

Exhibit 1 provides the average, median, and 25th and 75th percentile savings projection across the contributing health plans included in the study for self-administered (oral, inhaled and injectable) and provider administered injectable medications. For the underlying agents, we assumed a 90% shift in utilization from the medical to pharmacy benefit. Savings projections are calculated by medication and are summarized at the therapy level. The savings projections are not calculated in aggregate.

Exhibit 1
Self and Provider Injectable Medications
Allowed Cost Savings by Therapy Class

Therapy Class	Allowed PMPM	Average Savings	Median Savings	25th Percentile	75th Percentile
Hemophilia & Related Disorders	$0.84	24.7%	5.8%	-0.3%	24.5%
Oncology	0.47	21.2	14.4	5.7	26.5
Osteoporosis	0.26	28.4	30.5	15.3	39.3
Botulinum Toxins	0.20	21.5	14.8	9.8	26.4
Autoimmune	0.20	4.8	2.9	0.2	5.6
Retinal Disorders	0.16	8.9	6.3	3.8	9.7
Multiple Sclerosis	0.16	17.6	14.4	14.2	18.8
Allergic Asthma	0.14	6.7	5.8	2.4	11.4
Respiratory Syncytial Virus	0.14	12.9	0.2	-1.3	8.3
Infertility	0.14	45.8	1.7	1.0	68.0
Hormonal Therapies	0.13	18.0	6.0	2.2	14.1
Pulmonary Arterial Hypertension	0.11	12.8	8.7	6.8	14.3
Hematopoietic Growth Factors	0.10	4.7	4.8	-9.7	19.0
Immune Thrombocytopenic Purpura	0.05	30.4	20.6	5.3	37.0
Other	0.12	8.2	4.5	0.0	12.7
Total	**$3.22**	**19.7%**	**9.7%**	**3.7%**	**23.4%**

Specialty medications targeted by this program account for 16% ($3.22 out of roughly $20 PMPM) of the total specialty medication spend under the medical benefit.

Exhibit 2 provides the average, median, and 25th and 75th percentile savings projections for the top ten HCPCS by allowed cost PMPM.

Exhibit 2
Self and Provider Injectable Medications
Allowed Cost Savings for Top Ten HCPCS

HCPCS	Product Name	Therapy Class	Allowed PMPM	Average Savings	Median Savings	25th Percentile	75th Percentile
J7192	Factor VIII*	Hemophilia & Related Disorders	$0.44	22.4%	7.7%	-0.5%	28.8%
J2353	Octreotide Acetate Depot	Oncology	0.22	27.2	19.4	10.1	29.4
J7195	Benefix - Factor IX	Hemophilia & Related Disorders	0.20	12.8	2.8	0.5	7.0
J0585	Botox	Botulinum Toxins	0.19	21.8	15.1	10.1	26.5
J0897	Denosumab**	Osteoporosis	0.19	29.1	32.6	15.3	40.3
J3357	Stelara	Autoimmune	0.15	4.6	3.1	0.3	5.8
J2357	Xolair	Allergic asthma	0.14	6.7	5.8	2.4	11.4
90378	Synagis	Respiratory Syncytial Virus	0.14	12.9	0.2	-1.3	8.3
Q3025	Avonex	Multiple Sclerosis	0.12	18.8	18.8	18.8	18.9
J2778	Lucentis	Retinal Disorders	0.12	8.6	5.8	3.0	9.3
		All Other HCPCS	1.31	22.0	7.4	1.6	26.8
Total			**$3.22**	**19.7%**	**9.7%**	**3.7%**	**23.4%**

Notes:
** Includes Advate, Helixate FS, Kogenate FS, Recombinate*
*** Includes Xgeva and Prolia*

The top ten HCPCS represent 59% ($1.91 out of $3.22 PMPM) of the total allowed costs for the targeted self-administered and provider administered injected medications. The average savings projection is positive (i.e., lower expected allowed cost) for all ten products. However, for Factor VIII and Synagis, the 25th to 75th percentile range demonstrates negative savings for a number of contributing health plans in the study. This could be based on incorrect unit coding in the claims data (a common occurrence for these medications), plans already having these products dispensed through the pharmacy benefit, or other factors.

Exhibit 3 provides the average, median, and 25th and 75th percentile savings projection incurred by site of care for self-administered medications and physician administered injections. Savings projections are calculated by medication and are summarized by site of care. The savings projections are not calculated in aggregate.

Exhibit 3
Self and Provider Injectable Medications
Allowed Cost Savings by Site of Care

Site of Care	Allowed PMPM	Average Savings	Median Savings	25th Percentile	75th Percentile
Physician Office	$1.39	12.4%	3.6%	0.3%	17.0%
Home Health	1.09	19.3	5.1	0.1	18.8
Hospital Outpatient	0.74	34.3	28.1	15.5	42.1
Total	**$3.22**	**19.7%**	**9.7%**	**3.7%**	**23.4%**

Medical specialty allowed costs in the hospital outpatient setting represent only 23% ($0.74 out of $3.22 PMPM) of specialty allowed costs. However, the hospital outpatient setting also has the largest saving projection across all sites and is the main driver of the overall savings projection.

Exhibit 4 provides the average, median, and 25th and 75th percentile savings projection for non-oncology specialty provider infused medications. We assumed a 75% shift in utilization from the medical to pharmacy benefit here (a lower conversion rate than the assumption for self and provider injectables), due to the complexity associated with the care of patients receiving infused medications. This complexity of care includes the need for more intensive care management, clinical circumstances, comorbidities, and other factors. Savings projections are calculated by medication and are summarized at the therapy level. The savings projections are not calculated in aggregate.

Exhibit 4
Non-Oncology Provider Infused Medications
Allowed Cost Savings by Therapy Class

Therapy Class	Allowed PMPM	Average Savings	Median Savings	25th Percentile	75th Percentile
Autoimmune	$2.06	11.8%	10.8%	7.5%	15.6%
Immune Deficiency	1.18	7.0	5.9	-5.0	16.6
Lysosomal Storage Disorders	0.83	17.6	11.7	8.4	18.0
Multiple Sclerosis	0.56	13.5	11.8	5.4	17.5
Hereditary Angioedema	0.26	4.3	1.1	-0.7	5.5
Paroxysmal Nocturnal Hemoglobinuria	0.26	25.4	19.4	9.0	34.7
Alpha-1 Antitrypsin Deficiency	0.19	13.8	4.1	1.0	14.1
Systemic Lupus Erythematosus	0.09	21.8	10.8	6.1	28.7
Total	**$5.43**	**12.3%**	**9.7%**	**4.1%**	**17.0%**

Non-oncology provider infused medications account for 27% ($5.43 out of roughly $20 PMPM) of the total specialty medication spend under the medical benefit and account for a larger portion of medical specialty spend when compared to self and provider injectable medications (27% vs. 16%).

Exhibit 5 provides the average, median, and 25th and 75th percentile savings projections for the top ten infused HCPCS by allowed cost PMPM.

Exhibit 5
Non-Oncology Provider Infused Medications
Allowed Cost Savings for Top Ten HCPCS

HCPCS	Product Name	Therapy Class	Allowed PMPM	Average Savings	Median Savings	25th Percentile	75th Percentile
J1745	Remicade	Autoimmune	$1.78	11.1%	10.5%	7.4%	14.9%
J2323	Tysabri	Multiple Sclerosis	0.56	13.5	11.8	5.4	17.5
J1569	Gammagard	Immune Deficiency	0.31	8.3	6.5	-1.2	15.6
J1300	Solaris	Paroxysmal Nocturnal Hemoglobinuria	0.26	25.4	19.4	9.0	34.7
J1561	Gammaked / Gamunex	Immune Deficiency	0.25	8.3	8.2	0.9	15.7
J1459	Privigen	Immune Deficiency	0.24	16.1	6.6	-2.1	26.0
J1458	Naglazyme	Lysosomal Storage Disorders	0.23	18.0	18.0	18.0	18.0
J0598	Cinryze	Hereditary Angioedema	0.20	6.0	1.3	0.5	6.8
J0129	Orencia	Autoimmune	0.17	14.5	10.8	7.8	17.1
J0256	Aralast NP / Prolastin / Zemaira	Alpha-1 Antitrypsin Deficiency	0.18	15.3	4.8	1.6	15.6
		All Other HCPCS	1.25	11.2	7.5	-1.1	16.4
Total			**$5.43**	**12.3%**	**9.7%**	**4.1%**	**17.0%**

The top ten HCPCS represent 77% ($4.18 out of $5.43 PMPM) of the total allowed cost for targeted provider infused medications. The average savings projection is positive (i.e., lower expected allowed cost) for all ten medications; however, for immune globulin (Gammagard, Gammaked, Gamunex and Privigen) products, the 25th to 75th percentile range demonstrates an almost flat or negative savings for a number of contributing health plans in the study. This could be based on incorrect unit coding in the claims data, plans already having these products dispensed through the pharmacy benefit, or other factors.

Exhibit 6 provides the average, median, and 25th and 75th percentile savings projection incurred by site of care for non-oncology provider infused medications. Savings projections are calculated by medication and are summarized by site of care. The savings projections are not calculated in aggregate.

Exhibit 6
Non-Oncology Provider Infused Medications
Allowed Cost Savings by Site of Care

Site of Care	Allowed Cost PMPM	Average Savings	Median Savings	25th Percentile	75th Percentile
Physician Office	$1.75	0.9%	-0.6%	-3.8%	4.3%
Home Health	1.37	3.9	3.4	-1.3	6.3
Hospital Outpatient	2.31	26.0	21.2	13.4	32.9
Total	**$5.43**	**12.3%**	**9.7%**	**4.1%**	**17.0%**

The non-oncology provider infused medication cost distribution by site of care is different when compared to self and provider injectable medications. Medical specialty allowed costs in the hospital outpatient setting represent 43% ($2.31 out of $5.43 PMPM) of specialty allowed costs. On average, converting medications from the hospital outpatient setting resulted in higher average savings compared to the other sites of care. For some contributing health plans in the study, moving medications from the physician office or home health setting resulted in a loss.

For these products, the allowed cost associated medication administration and E&M may be reduced by 14.2% to 16.8% in aggregate by moving the site of care from the hospital outpatient setting to the physician office or home health setting. We assumed a 75% shift in utilization from the hospital outpatient setting to the physician office and home health setting. We evaluated three scenarios where utilization would shift to the physician office and home health setting in an 80/20, 65/35 and 50/50 ratio. Further, we assumed utilization moving to the home health setting would only incur an administration charge.

The following key assumptions were made in this analysis:

- Targeted medications and therapy classes were identified by CVS and are included in Appendix A.
- Results are based on specialty cost and utilization in the hospital outpatient, physician office and home health settings only.
- RJ Health Systems HCPCS to National Drug Code (NDC) mapping database was utilized to determine the effective AWP per unit for medical specialty claims.
- Based on survey data, the effective pharmacy cost per unit was calculated to be the AWP minus 17%[1].
- Savings / loss rates were calculated by comparing the medical claim allowed cost per unit compared to the effective pharmacy cost per unit (RJ AWP minus 17%).
- Pharmacy dispensing fees, manufacture rebates, and patient cost sharing, and assistance programs are excluded from the results.
- 90% of medical specialty (i.e., physician office, home health and hospital outpatient) utilization is converted to the pharmacy benefit for self-administered and provider injectable medications.

- 75% of medical specialty (i.e., physician office, home health and hospital outpatient) utilization is converted to the pharmacy benefit for provider infused medications.

- Each contributor's results were equally weighted. The savings rate was calculated across all contributing health plans at the medication / site of care combination level.

Key Findings

To demonstrate the potential variability in savings projections across the study contributors, we included the 25th and 75th percentile results. The large variation between the average and 25th and 75th percentile projections is predominately due to underlying contributor specific factors such as age, gender, utilization levels, provider reimbursement, or other factors.

We reviewed the average age and gender mix across contributing health plans included in the study and did not see significant variation. The average specialty utilizer age across the contributing health plans included in this study ranged from 48 to 51 years old. The ratio for specialty utilizers is approximately 40% males to 60% females.

Further, medication and site of care reimbursement terms significantly impact the savings projection variability. At the claim level, even after removing for erroneous claims, significant allowed cost per unit variability was observed within a contributor and across contributing health plans. This indicates the cost paid for these medications can vary greatly by site and by contributor.

We evaluated the projected results at the therapy class level as well. Hemophilia and Infertility therapy classes have higher than expected savings projections, along with a large variation across the contributing health plans. The higher savings rate for these two classes is partially due to a high percentage of claims with a lower than expected number of administered units in the medical claims data. This directly impacts the allowed cost per unit and the savings calculation. **The results for these classes should be reviewed with caution.**

Respiratory Syncytial Virus and Hormonal Therapies classes have an average savings rate higher than the 25th to 75th percentile due to one contributor with a much higher savings projection compared to the rest of the study cohort.

The following factors must be considered when considering a channel transition strategy and will directly impact the expected conversion factor:

- Medication route of administration and targeted disease
- Inclusion and exclusion of specialty medications and therapy classes
- Grandfathering of existing specialty utilizers
- Hard lock out of targeted medications from the medical benefit versus soft lock out with transition fills
- Number of transitions fills allowed
- Provider and member level communication and education

To account for a portion of these factors in our modeling, different conversion rates were applied to self and provider administered (oral, inhaled and injectable) versus provider infused medications.

The following financial factors were not included in the analysis, but should be considered when evaluating a channel transition strategy:

- ***Pharmacy Dispensing Fees*** – Specialty medications that are adjudicated under the pharmacy benefit may be subject to pharmacy dispensing fees.

- ***Manufacturer Rebates*** – Specialty medications may be eligible for manufacturer rebates, which may lower medication cost for the payer and patient[1].

- ***Patient Assistance Programs*** – Manufacturers provide patient assistance programs that may lower patient out of pocket costs.

- ***Patient Cost Sharing*** – Patient cost sharing requirements (e.g., coinsurance and flat copay) on specialty medications may vary between the medical and pharmacy benefit.

TARGETED THERAPY CLASSES AND MEDICATIONS

Selected medications and therapy classes can directly impact the success or conversion rate for a channel transition strategy. This study evaluated a wide range of specialty medications and therapy classes that could be included in a channel transition strategy, focusing on medications that are often covered extensively by both the medical and pharmacy benefit. Along with benefit coverage determinations, clinical considerations are of the utmost importance when determining which products can be safely transitioned to a specific site of care. To be deemed eligible for a site of care transition, patients receiving these medications need to be evaluated for their condition severity, comorbidity burden, complete medical treatment regimen, treatment pathway, and medication route of administration.

An example of evaluating the treatment pathway is in the treatment of autoimmune conditions such as Rheumatoid Arthritis (RA). Medications for a single condition can have various routes of administration and thus, can be covered under both the medical and pharmacy benefit. For example, based on disease severity and the patient's clinical profile, RA treatment may include oral agents (e.g., methotrexate and Xeljanz), self-injectables (e.g., Enbrel and Humira) and infused products (e.g., Remicade). This complexity makes it difficult for the payer and providers to coordinate care and measure outcomes. Consolidating medication coverage under a single benefit allows for the implementation of treatment pathways and more comprehensive utilization management for targeted specialty conditions.

Specialty conditions, such as Hemophilia, are also targeted by these programs. Hemophilia is treated by infused medications and provides a different level of complexity for the patient. These patients receive infusions that are often self-administered by the patient or caregiver. These patients also leverage home health services extensively. A consolidated view of hemophilia medication utilization allows for improved cost and utilization management of these patients.

When evaluating specialty medication route of administration, self-administered medications (oral, inhaled and injectable) are more likely to be targeted by a channel transition program, as these are easily and customarily dispensed under the pharmacy benefit. These medications can be administered by the patient or caregiver, through home health services and by their current provider. Infused products present a greater challenge. These medications are more likely to be administered by a healthcare provider, in an ambulatory infusion clinic or by home health services. The potential for infusion site reactions or serious adverse events must be considered when evaluating program inclusion as well as selecting the most appropriate site of care.

A channel transition strategy is one strategy payers can implement to address the complexity of specialty conditions. However, in many instances, specialty conditions are treated with medications with different mechanisms of actions, routes of administration and benefit coverage. It is common to leverage additional strategies (e.g., preferred medication/formulary, clinical pathways, utilization management and reimbursement changes) to provide a more comprehensive specialty benefit solution.

PROGRAM DESIGN, IMPLEMENTATION, AND COMMUNICATION

Channel transition strategy design is also a key component to the success or conversion rate achieved. Program design can be voluntary or mandatory for patients and providers. Logically, a mandatory design is the most effective method and would typically be accomplished through a plan design change. An option that payers can employ is to start slowly by targeting one to two therapy classes (or specific medications as a pilot) and then work to implement a larger program.

An effective channel transition program is typically accomplished through plan design changes that effectively lock out targeted medications from the medical benefit. Payers will be able to leverage existing pharmacy specialty pricing for transitioned medications. However, shifting specialty utilization out of the medical benefit may directly impact the overall provider (physician, ambulatory, infusion clinics, and outpatient hospital) reimbursement and thereby could potentially require adjustments or renegotiations to provider contracts if the reimbursement change is material.

Many of the specialty medications targeted by this program will still need to be administered by a health care professional. For some patients, this medication administration can be performed by a nurse at their home or in an alternative health care setting (for example, an ambulatory infusion clinic). However, for other patients, it will require the use of providers in the network that are willing to accept medications on behalf of patients from a specialty pharmacy (i.e., white bagging) or that patients be allowed to receive medications at their home or pharmacy and bring them to the provider (i.e., brown bagging) for administration. These requirements may result in patients having to change the location of medication administration.

To ensure a smooth transition, case and condition management is also required for patients and providers prior to the start of a program as well as on an ongoing basis. Seamless patient and provider communication is necessary to ensure the appropriate medications are ordered and delivered at the correct time and place. Further, treatment pathways can be assessed and a consistent message can be provided to the patient.

Additional design components that need to be considered include the number of transition fills provided, where the patient is excluded through the mandatory lock out. Transition fills may vary by medication or condition. Prior authorization, emergency use approval and denial criteria must also be developed at the medication level.

Lastly, successful implementation also requires working and communicating with all relevant parties, including the payer, provider, patient, health plan and PBM. Payers are concerned with member access to therapy and that safety is not compromised. All parties involved must be aware and understand the program and their specific role. Patient communication should include a detailed program definition, how to access their medications and available providers in their network or area.

IV. METHODOLOGY

This report includes Milliman research and analysis using Milliman's HCG database for 2012. This database consists of medical and pharmacy claims experience from several HCG contributor sources. The study population was developed using the following contributor inclusion criteria to ensure credible claims experience. The following criteria must be met for the entire study period (January – December 2012):

- Must have a HMO, PPO, POS or major medical plan design
- Contributors must have provided medical claims for the full year
- Average member exposure at contributor level of at least nine months per year
- At least 50 unique members per contributor
- The variation in monthly utilization must not be more than 45% to ensure consistent medication utilization throughout the year

The analysis consists of contributors that meet the study inclusion criteria. Selected contributors provide a mix of benefit designs including both fully-funded and self-funded contributors, predominantly with a PPO-type plan. These contributors represent roughly 83 million member months.

This database includes allowed costs and utilization across various sites of care (i.e., hospital outpatient facility, physician office, home health) for a commercial population. The analysis did not include pharmacy claims associated with an inpatient admission. Inpatient ancillary services are often subject to bundled reporting making it difficult to accurately account for medication costs.

This dataset was used to benchmark 2012 health care costs and evaluate the projected savings under channel transition strategies. Several claim level validation checks were incorporated to improve the overall quality of the medical claims. Evaluating the quality of medical specialty claims is necessary as claims may be subject to processing lag times, reversals, misreporting of units and general claims entry errors. Claims were flagged as an error claim and removed from the study cohort if the claim was populated with a billed amount, allowed amount, or unit amount equal to zero. Most reversals matched with a positive claim amount and thus, represented a small portion of the overall dataset. Reversals were not excluded from the study. The study cohort is also limited to in-network claims.

We weighted each contributor results equally, instead of weighting allowed costs by contributor size, to limit the effects that large contributors can have. The average of each contributor's health plan medical and pharmacy benefit PMPM allowed costs were calculated at the medication / site of care combination level. Allowed costs PMPM and utilization were then summarized by medication, therapy class, site of care, and pharmacy and medical benefit.

Specialty medications in the medical and pharmacy benefit were identified by HCPCS and NDC leveraging Milliman's proprietary HCGs definition and CVS proprietary definitions. Appendix B provides a list of specialty therapy classes with example medications.

In our evaluation of specialty cost management strategies, we further evaluated medical specialty claims and excluded any claims that did not meet the following criteria:

- A medication and site of care combination must have greater than 25 claims for credible savings estimates

- Medication units on a claim must be greater than the minimum units expected based on dosing guidelines

- Total allowed cost per claim is greater than $10

- Compared to the medication AWP price, the claim allowed cost per unit must have an effective discount less than or equal to 50% and the mark up on the claim must be less than or equal to 1000%

16% of medical specialty medication claims did not meet this set of criteria and were excluded from the projected results.

If the resulting medication, site of care, and contributor combination had less than 25 claims or less than 20% non-error claims, savings were not calculated for the medication, site of care, and contributor combination due to credibility issues.

Savings were based on cost and utilization in the following settings:

- Hospital outpatient facility
- Physician office
- Home health care

V. BACKGROUND

SPECIALTY MEDICATION DEFINITION

Unfortunately, there is no universally accepted definition for specialty medications. The term "specialty" is a designation placed on select medications for the purpose of benefit management, cost sharing, and clinical oversight. This leads to a fair amount of variation across payers about how specialty products are defined. A specialty medication may meet one or more of the following criteria[6,7]:

- Significantly higher cost than non-specialty medications (e.g., Medicare Part D defines specialty as any product in which the negotiated monthly allowed price is $600 or more),
- Administered through injection or infusion; however, most payers also include some specialty products that can be inhaled or orally administered,
- Developed using biotechnology and made from proteins, nucleic acids, or living organisms (i.e., biologic),
- Specialized delivery, storage, handling, or administration requirements,
- Available through limited distribution channels (e.g., a designated Specialty Pharmacy),
- Treatment of a rare or complex condition,
- Intensive patient administration and compliance training, and
- Requires close patient monitoring for adverse events or requires patient be included in an FDA mandated Risk Evaluation and Mitigation Strategy (REMS) program.

In many instances, high cost is the primary criteria for assigning the specialty designation to a medication, as is the case in Medicare Part D[7]. In January 2013, The Academy of Managed Care Pharmacy (AMCP) published version 3.1 of the *AMCP Format for Formulary Submission* recommending that the definition of specialty medications include medications that have a difficult or unusual process of delivery to the patient and the patient should require monitoring prior to or following administration. The report also noted that high cost alone should not be enough to define a specialty medication.

CURRENT STATE

Exhibit 7 provides an allocation of 2012 health care expenditures in total and for specialty medications by benefit and place of service.

Exhibit 7
Summary of 2012 Healthcare Expenditures - Allowed Costs PMPM

	Medical Benefit							
Claim Type	Hospital Outpatient	Home Health	Physician Office	Hospital Inpatient	Other Medical	Total Medical	Pharmacy Benefit	Total Cost
All Services	$106.59	$9.13	$89.00	$103.71	$48.84	$357.27	$75.94	$433.21
Specialty Medications	$8.65	$2.67	$7.19	N/A	$1.76	$20.27	$18.06	$38.34

Note: Other Medical includes medical pharmacy, independent clinic, end stage renal disease treatment facility. The source is Milliman's HCG database.

In 2012, non-specialty and specialty medications adjudicated through the pharmacy benefit represented approximately 18% of total health care costs. Specialty medications represented 6% of medical benefit allowed costs and 24% of pharmacy benefit allowed costs.

As the exhibit illustrates, approximately 47% of specialty allowed costs were adjudicated through the pharmacy benefit and 53% through the medical benefit across various sites of care. Specialty costs include product specific (identified by NDC and HCPCS) costs and unclassified HCPCS costs.

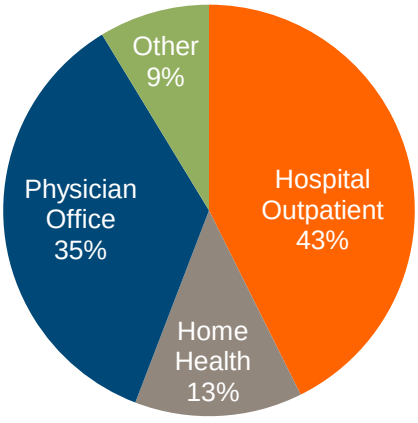
This situation leads to confusion among payers and providers as to how to best manage the patient and coordinate care in the most cost-effective manner. It may also lead to confusion among patients on how and where to obtain specialty medications. Given medical and pharmacy benefits are often structured differently, disparities may exist in the plan's medication cost, patient cost share, and clinical management depending on the setting. With specialty costs growing rapidly and making up an increasing portion of total healthcare spend, optimizing the distribution and pricing of specialty products through one or more channels is drawing more attention than ever before.

Traditionally infusion medications, as well as some injectable medications, have been primarily adjudicated in the medical benefit. When excluding hospital inpatient costs within the medical benefit, approximately 78% of specialty medication allowed costs are incurred in the physician office and hospital outpatient settings. It is important to note specialty costs provided during an inpatient hospital admission are difficult to benchmark due to bundling of inpatient ancillary service costs (and thus, are excluded from the analysis).

In some cases, the physician office and hospital outpatient centers assist significantly with the specialty product handling requirements and administration, as well as providing supportive care. However, many medications are safe and appropriate for home administration with a skilled infusion nurse who is appropriately trained to administer specialty medications and manage member safety. In 2012, approximately 13% of specialty medication allowed costs were provided by home health services.

Exhibit 8 provides the distribution of 2012 allowed costs for specialty medications by site of care within the medical benefit.

Exhibit 8
Distribution of 2012 Medical Specialty Allowed Costs - Site of Care



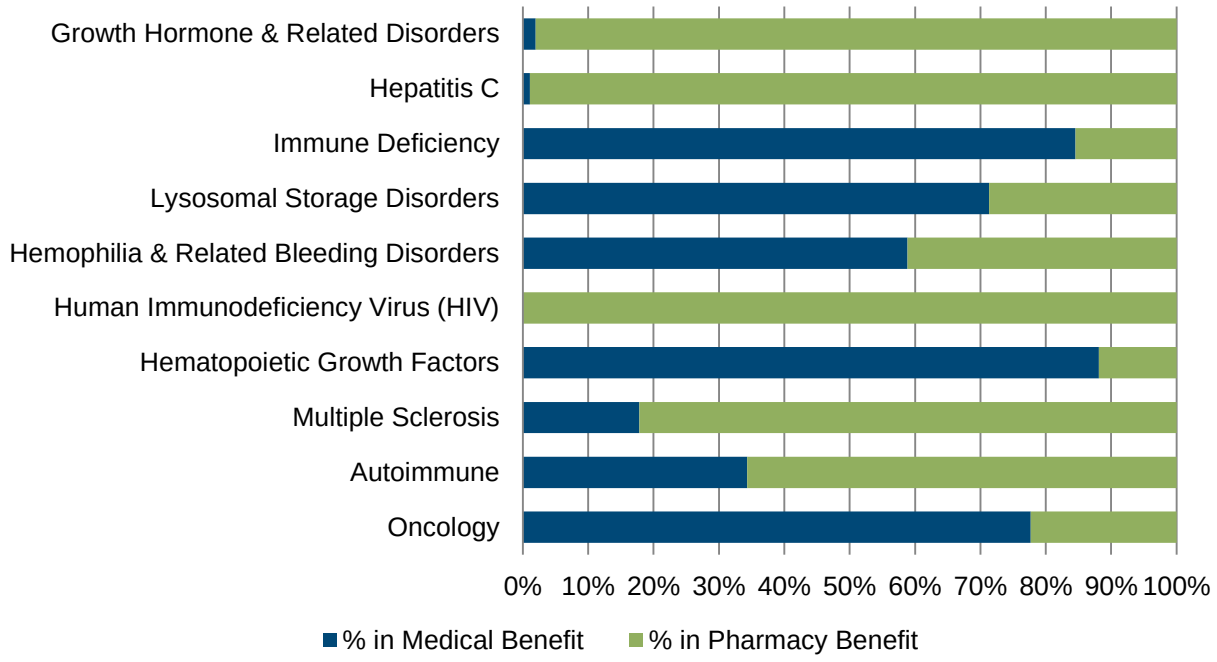
Source: Milliman's HCG Commercial database.

In 2012, 43% of medical specialty allowed costs were incurred in the hospital outpatient setting versus only 35% in the physician office. There was a notable increase (43% in 2012 versus 34% in 2010 of medical specialty spend) in specialty costs within the hospital outpatient setting compared to the Milliman specialty benchmarks study published in 2012[8]. The increase in allowed costs in the hospital outpatient setting may be due to:

- Hospital acquisition of physician practices in the relevant specialties, leading to the shifting of volume and associated claims from a physician's office to the hospital outpatient setting
- New specialist physicians avoiding the "buy and bill" model, while retiring physicians continued to practice in this model, leading to movement into the hospital
- Medications shifting to the pharmacy benefit from the physician's office, leaving fewer products in the medical benefit
- An increasing effort on the part of hospitals to service and retain specialty patients

Exhibit 9 provides the distribution of 2012 allowed specialty costs by benefit for the top ten therapeutic categories by total specialty spend.

Exhibit 9
Distribution of 2012 Specialty Allowed Cost - Therapy Class and Benefit



Source: Milliman's HCG Commercial database.

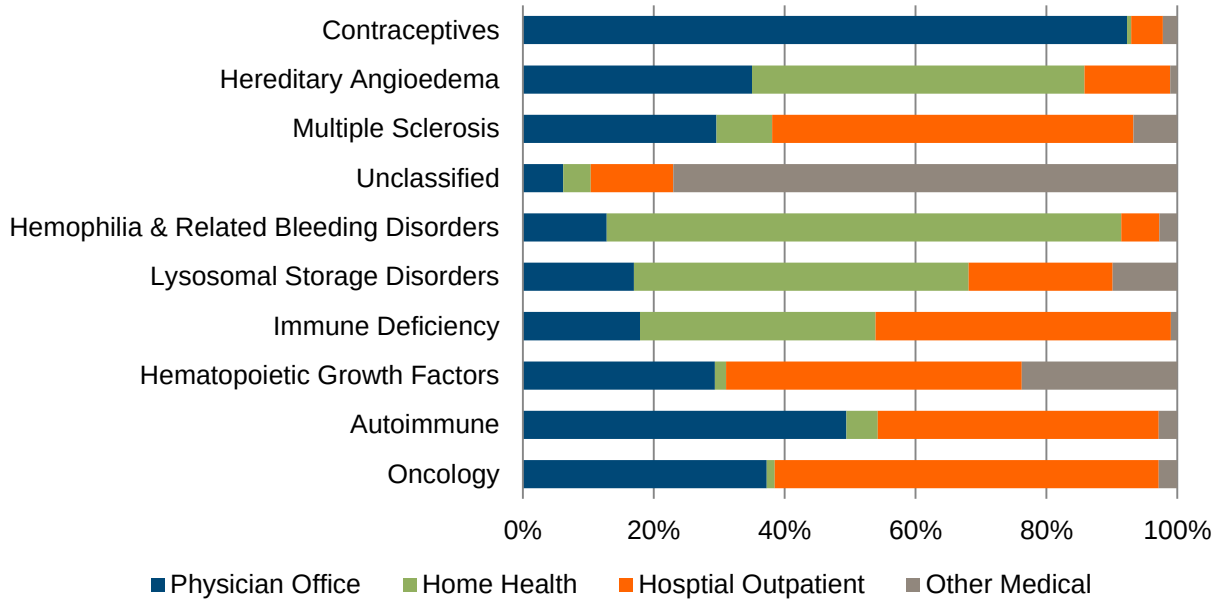
The top ten therapy classes by allowed cost represent 82% of specialty spend in the medical and pharmacy benefit. Medications adjudicated in the medical benefit with an unclassified HCPCS identified in Appendix C are excluded from this exhibit, however, they would be ranked 10th in overall specialty medication spend.

In six of the top ten therapy classes, more than 50% of specialty medication allowed costs were covered under the medical benefit, with Hematopoietic Growth Factors, Immune Deficiency and Oncology medications almost exclusively covered under the medical benefit. Human Immunodeficiency Virus (HIV), Hepatitis C, and Growth Hormone were adjudicated almost exclusively in the pharmacy benefit.

Specialty medications in the pharmacy benefit (predominately self-injectable, inhaled, and oral) are typically dispensed through specialty pharmacies. These specialty pharmacies can manage the associated handling procedures and provide additional clinical management services, collaborating with the patient's medical providers and assisting with medication access, adherence, and adverse event management. As an alternative to self-administration by the patient, there are a small portion of cases in which the specialty pharmacy "brown bags" the medication, a procedure in which the patient is dispensed the specialty medication directly and brings the medication to the provider themselves for administration. Lastly, there are also some cases in which the specialty pharmacy dispenses the medication directly to the hospital pharmacy or physician office on behalf of a patient, known as "white bagging"[9].

Exhibit 10 provides distribution of specialty allowed costs by place of service for the top ten therapeutic categories in the medical benefit.

Exhibit 10
Distribution of 2012 Medical Specialty Allowed Cost - Place of Service



Source: Milliman's HCG Commercial database.

The top ten therapy classes by medical specialty allowed cost represent 88% of total specialty allowed costs in the medical benefit. Several classes had the highest portion of allowed costs in the outpatient hospital setting including Oncology, Multiple Sclerosis, Hematopoietic Growth Factors and Immune Deficiency. Several other classes had a majority of their medical specialty medication costs dispensed in the home (e.g., Hemophilia, Lysosomal Storage Disease, and Heredity Angioedema).

Medications coded with an unclassified HCPCS in the medical benefit ranked 7th in medical specialty spend, with 77% of allowed costs in other medical sites of care (e.g., medical pharmacy, end stage renal disease (ESRD) treatment facilities, and independent clinics). The higher than expected unclassified allowed costs is primarily driven by one study contributor which submitted a large portion on unclassified claims through the medical pharmacy site of care.

CURRENT CHALLENGES

It is an understatement to say it is difficult to measure and benchmark specialty medication costs and utilization. The complexity in this area far exceeds that of other pharmacy and most medical services. This complexity has limited the ability of payers to understand aggregate specialty medication costs and trend. Further, it also has limited their ability to understand the impact of clinical interventions and directly compare medication costs between the benefits. Current challenges in understanding and analyzing specialty medication use include the following:

- Medication identification and claim level coding,
- Claim processing and timing, and
- Administration and E&M coding.

Medication Identification and Claim Level Coding

In the pharmacy benefit, there is a greater degree of data uniformity than is present within medical medication claims. In pharmacy claims, medications are consistently identified by NDC, which defines the manufacturer, strength, dosage form, and package size.

Within the medical benefit there is more variation with specialty medications generally identified by HCPCS. HCPCS define a medication at the chemical entity level, however, may not include strength, dosage form, or brand / generic indicator. Further, there is typically a delay in assigning a HCPCS code for new products. This causes many medications to be labeled as unclassified for up to 1 or even 2 years after product launch. The “silver lining” with regard to the 53% of specialty medication costs under the medical benefit is that an International Classification of Diseases, Ninth Revision (ICD-9) code is consistently included, allowing for more robust analyses by specific indication.

In 2012, costs associated with unclassified HCPCS represented up to 4% of specialty medication costs incurred in the medical benefit. Unclassified HCPCS and descriptions are provided in Appendix C. In this and other medical claims datasets, unclassified HCPCS directly have a negative impact on the ability to fully understand and measure specialty costs and utilization within the medical benefit.

The submitted medication units on medical medication claims can be another source of variation. Although it is expected the units submitted on medical specialty claims will vary by medication, claim units are sometimes only defined as 0 or 1. For example, Tysabri, used in the treatment of multiple sclerosis and Crohn’s Disease, is administered as a 300 mg (300 units) intravenous infusion. However, claims data we analyzed for this medication includes claims with submitted units ranging from 1 to 300.

Providers can also bill for medications using revenue codes which is becoming increasingly common in the outpatient hospital setting[10]. Revenue codes do not include medication specific information, such as medication name, strength or dosage form, and thus, cannot differentiate between specialty and non-specialty utilization. Associating medication related revenue codes with ICD-9 diagnosis codes commonly associated with conditions requiring specialty medications can be used to approximate specialty medication costs in this coding category, but without the desired level of precision.

In 2012, allowed costs associated with medication claims billed only with a revenue code and specialty ICD-9 diagnosis code represented up to an additional 4% of specialty medication costs incurred under the medical benefit (excluding inpatient costs). More than half of medications identified by revenue code and specialty ICD-9 diagnosis code were submitted from the outpatient hospital setting.

Submitted and adjudicated specialty medication claims may also have incomplete financial metrics, with allowed cost, submitted units and patient cost sharing excluded from the claim. Further, medication and administration costs may be bundled with associated services making it impossible to separate out the specialty medication costs. However, due to certain provider reimbursement contracts, bundling of specialty claims may be appropriate, making it difficult to determine if the claims are truly incomplete or are the result of an agreed upon and intended deviation from the usual distinction (between these charges) by the contracting payer and provider. Inpatient hospital medication benchmarking is not possible due to similar reporting issues.

Medication Claim Processing and Timing

A specialty claim adjudicated under the medical benefit is processed differently than a claim adjudicated under the pharmacy benefit. When a claim is covered under the pharmacy benefit, a PBM is typically responsible for electronically capturing and processing that claim. The claim adjudication occurs at the point of sale, which allows various drug utilization review (DUR) interventions and formulary controls to take place in real-time (before medications are dispensed). Pharmacy claims are often standardized with the correct cost, accurate number of units dispensed, and have a low payment lag time.

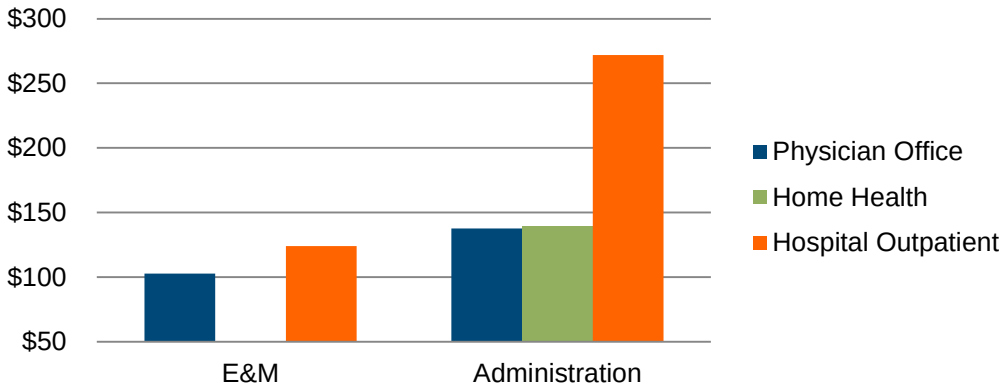
In contrast, medical claims are not adjudicated in real-time and may exclude items not required for claim payment, such as the number of units dispensed. This delay limits the DUR interventions and formulary controls that can be implemented. It also makes it difficult to assess if the provider is submitting the appropriate cost for the claims or if the dose prescribed is clinically appropriate (and consistent with consensus guideline and/or product labeling). Adjudication of medical claims is highly dependent on the payer and the platform in which the payers can accept claim data. If the payer does not have checks / verifications and other requirements in place, the provider can submit incorrect data (such an unclassified HCPCS or incorrect units) and still receive reimbursement.

Administration and Evaluation and Management

Specialty medications billed through the medical benefit may also be associated with additional charges for the administration of the medications, as well as the professional services (E&M) incurred in the care of the patient. Charges associated with medication administration may not be submitted or adjudicated on the same day as the medication. Additionally, medication administration claims do not indicate which medication was administered and may be bundled for multiple medications or with other services provided.

Exhibit 11 provides the 2012 average administration and E&M charges by site of care. Administration and E&M HCPCS are defined in Appendix D. This exhibit includes administration associated allowed costs that occurred up to five days after a specialty medication claim and includes E&M associated allowed costs up to five days prior to a specialty medication claim.

Exhibit 11
2012 Administration and E&M Allowed Cost per Claim



Source: Milliman's HCG Commercial database.

Compared to the physician office setting, administration costs per claim were 98% higher ($138 versus $272 per claim) and E&M costs were 21% higher ($124 versus $103 per claim) in the hospital outpatient setting. Typically patients utilizing the home health setting will only incur medication administration charges. We excluded the small amount of home health E&M charges observed in the study data from Exhibit 11 since we believe they were likely incorrectly included.

PROVIDER REIMBURSEMENT

Since specialty medications are administered through both the pharmacy and medical benefit and each benefit is structured differently, payers must implement various reimbursement strategies. Several reimbursement strategies are available and have varying impacts on specialty medication pricing.

For medications adjudicated under the pharmacy benefit, payers, such as health plans and employers, can contract with PBMs, specialty pharmacies or directly with manufacturers to obtain specialty medications. Pharmacy reimbursement contracts are typically defined on a discount basis off of AWP; however, the terms of the contracts can vary significantly. As mentioned earlier, the definition of specialty medication is not universal and is defined at the organization level. Thus, the number of medications covered under a contract can vary. Further, the contract may also include supportive care medications, such as anti-nausea and vomiting products used in conjunction with oncology medications[11].

Reimbursement contracts will include provisions for brand and generic medications that may apply to specialty products. More commonly, a specialty medication pricing schedule may be included in the contract with specific discounts defined by product or therapeutic class. Further, certain specialty medications are eligible for manufacturer rebates, often in clinical classes where therapeutic substitutes are available.

Several pricing strategies are employed within the medical benefit and can increase the price ultimately paid for specialty medications. For example, providers may be reimbursed based on a percentage off of billed charges. This allows providers the ability to be reimbursed at various levels not related to the acquisition cost of the medications.

Another highly prevalent reimbursement is referred to as "Buy and Bill." In this model, a provider purchases the medication and bills the payer for their cost plus a markup. As a method to limit reimbursement, payers have implemented fee schedules, which still allow the provider to source their own medications, but are then reimbursed a fixed amount. The fixed fee schedule can be based on a discount off charges or calculated in a similar way to the method used in the reimbursement of Medicare Part B medications, where the average sales price (ASP) plus a mark-up is utilized. To further control the sourcing of specialty medications, payers can require a provider to purchase specialty medications from a contracted source.

Related to these reimbursement considerations, the provider landscape is changing. A current market trend is for hospital systems to purchase physician practices and bill all medications through the hospital outpatient setting[13]. To assist in outpatient market share, hospitals are developing agreements with associated physician practices to direct patients to the hospital outpatient setting for infused and injectable medications. With this type of arrangement, physicians no longer have the administrative burden of managing the medication supply for their patients, nor do they accept the financial risk. In most instances, this increases costs for payers since outpatient hospital reimbursement is typically higher than the physician office reimbursement[13]. Payers are having difficulty modifying outpatient hospital reimbursement for specialty medications. This is often driven by the fact that the reimbursement for specialty medications is only a small part of the overall hospital reimbursement contract and changes to one portion of the contract are not typically made in isolation.

To demonstrate the potential impact of provider reimbursements, Exhibit 12 compares the 2012 average cost per unit for top ten medical specialty products by allowed cost in the physician office and hospital outpatient setting within the medical benefit to 2012 AWP price in the pharmacy benefit.

Exhibit 12
2012 Top 10 Medical Specialty Medication - Allowed Cost per Unit

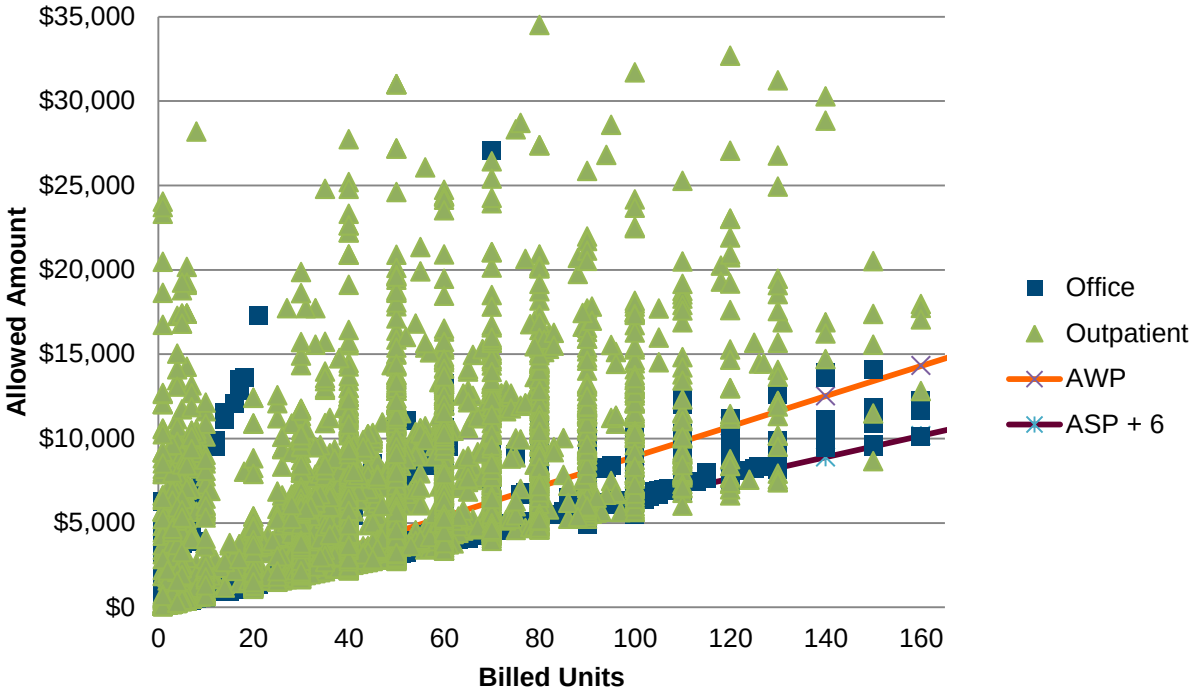
Rank	HCPCS	Product Brand Name	Therapy Class	% Specialty Allowed Cost	Physician Office	Hospital Outpatient	Average 2012 RJ AWP
1	J1745	Remicade	Autoimmune	9.6%	$70.90	$116.96	$89.21
2	J2505	Neulasta	Hematopoietic Growth Factors	6.0	3,389.14	5,191.09	4,371.96
3	J9310	Rituxan	Oncology	5.3	651.94	1,048.84	755.78
4	J9035	Avastin	Oncology	5.3	71.97	117.53	72.09
5	J9355	Herceptin	Oncology	4.6	87.62	141.56	87.32
6	J9263	Eloxatin	Oncology	3.4	11.31	19.34	9.63
7	J2323	Tysabri	Multiple Sclerosis	3.0	12.97	17.58	14.68
8	J7192	Advate	Hemophilia & Related Bleeding Disorders	2.3	2.13	2.95	1.56
9	J9171	Taxotere	Oncology	2.0	16.05	36.16	22.24
10	J1569	Gammagard	Immune Deficiency	1.7	47.43	84.31	69.70
Top 10 HCPCS Total				**43.2%**			

Source: Milliman's HCG Commercial database.

The average allowed cost per unit is higher (above AWP) in the hospital outpatient setting for all ten products. The average AWP cost per unit is from the RJ Health System HCPCS to NDC database and assumes no pharmacy discount.

Within a specific place of service, there can be significant claim cost variation. Exhibit 13 provides the distribution of Remicade allowed cost by claim units in the physician office and hospital outpatient setting along with AWP and ASP plus 6% as reference points.

Exhibit 13
Distribution of Remicade Allowed Cost by Claim Units



Source: Milliman's HCG Commercial database.

Remicade dosing varies by patient weight and indication, so some variation in claim cost is to be expected. However, in the hospital outpatient setting, this exhibit demonstrates the larger than expected variation in Remicade claim cost for a given dose.

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Appendix A
Therapy Classes Included in Channel Transition Modeling

Therapy Class	Examples of Medications in Class
Alcohol Dependency	Vivitrol
Allergic Asthma	Xolair
Alpha-1 Antitrypsin Deficiency	Aralast NP, Glassia
Autoimmune	Remicade, Orencia, Stelara, Humira, Enbrel
Botulinum Toxins	Botox, Xeomin, Dysport, Myobloc
Contraceptives	Mirena, Implanon
Dupuytren's Contracture	Xiaflex
Growth Hormone & Related Disorders	Nutropin, Humatrope, Genotropin, Norditropin
Hematopoietic Growth Factors	Aranesp , Epogen
Hemophilia & Related Disorders	Advate, Benefix, Alphanate
Hepatitis C	Pegasys, Peg-Intron
Hereditary Angioedema	Cinryze, Berinert, Kalbitor
Hormonal Therapies	Acthar HP, Supprelin LA
Immune Thrombocytopenic Purpura	Nplate
Immune Deficiency	Gammagard, Gammaked, Privigen
Infertility	Follistim AQ, Gonal-F, Menopur, Bravelle
Iron Overload	Desferal
Lysosomal Storage Disorders	Naglazyme, Fabrazyme, VPRIV
Multiple Sclerosis	Tysabri, Avonex
Oncology	Sandostatin LAR Depot, Eligard, Lupron Depot
Osteoarthritis	Synvisc, Euflexxa, Orthovisc
Osteoporosis	Forteo, Prolia, Reclast
Pain Management	Prialt
Paroxysmal Nocturnal Hemoglobinuria	Soliris
Pre-term Birth	Makena
Pulmonary Arterial Hypertension	Remodulin, Tyvaso, Ventavis
Respiratory Syncytial Virus	Synagis
Retinal Disorders	Lucentis, Eylea, Visudyne
Systemic Lupus Erythematosus	Benlysta
Transplant	Prograf, Myfortic, Cellcept

Appendix B
Specialty Therapy Classes

Therapy Class	Examples of Medications in Class
Alcohol Dependency	Vivitrol
Allergic Asthma	Xolair
Alpha-1 Antitrypsin Deficiency	Aralast NP, Glassia
Autoimmune	Remicade, Orencia, Stelara, Humira, Enbrel
Botulinum Toxins	Botox, Xeomin, Dysport, Myobloc
Contraceptives	Mirena, Implanon
Cryopyrin-Associated Periodic Syndromes	Arcalyst, Ilaris
Cushing's Syndrome	Korlym
Cystic Fibrosis	Pulmozyme, Tobi, Cayston
Dupuytren's Contracture	Xiaflex
Gout	Krystexxa
Growth Hormone & Related Disorders	Nutropin, Humatrope, Genotropin, Norditropin
Hematopoietic Growth Factors	Aranesp, Epogen, Neulasta, Neupogen
Hemophilia & Related Disorders	Advate, NovoSeven RT, Mononine, Benefix
Hepatitis	Infergen, Pegasys, Peg-intron, Incivek Baraclude
Hereditary Angioedema	Berinert, Cinryze
HIV Medications	Fuzeon, Retrovir, Videx, Atripla, Combivir
Hormonal Therapies	Acthar HP, Supprelin LA
Immune Thrombocytopenic Purpura	Nplate
Immune Deficiency	Gammagard, Gammaked, Privigen
Infectious Disease	Actimmune, Sylatron
Infertility	Follistim AQ, Gonal-F, Menopur, Bravelle
Iron Overload	Desferal
Lysosomal Storage Disorders	Naglazyme, Fabrazyme, VPRIV
Miscellaneous	Adagen, Apligraf, Rilutek
Movement Disorders	Apokyn, Xenazine
Multiple Sclerosis	Tysabri, Avonex, Betaseron, Copaxone
Oncology	Rituxan, Avastin, Afinitor, Gleevec
Osteoarthritis	Synvisc, Euflexxa, Orthovisc
Osteoporosis	Forteo, Prolia, Reclast
Pain Management	Qutenza, Prialt
Paroxysmal Nocturnal Hemoglobinuria	Soliris
Pre-term Birth	Makena
Pulmonary Arterial Hypertension	Flolan, Remodulin, Revatio
Respiratory Syncytial Virus	Synagis
Retinal Disorders	Eylea, Ozurdex, Lucentis
Systemic Lupus Erythematosus	Benlysta
Transplant	Cellcept, Gengraf, Sandimmune

Appendix C
Unclassified Medications

HCPCS	Description
J3490	Drugs unclassified injection
J3535	Metered dose inhaler drug
J3590	Unclassified biologics
J7699	Inhalation solution for DME
J7799	Non-inhalation drug for DME
J7199	Hemophilia clot factor noc
J7599	Immunosuppressive drug noc
J8498	Antiemetic rectal/supp NOS
J8499	Oral prescrip drug non chemo
J8597	Antiemetic drug oral NOS
J8999	Oral prescription drug chemo
J9999	Chemotherapy drug
C9399	Unclassified drugs or biolog

Appendix D
Administration and Evaluation and Management (E&M) HCPCS

Type	HCPCS	Description
Administration	90761	IV infusion, each additional hour up to 8 hrs
Administration	90765	Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance or drug); initial, up to 1 hour
Administration	90766	Intravenous infusion, for therapy, prophylaxis or diagnosis (specify substance or drug); each additional hour, up to 8 hours
Administration	90767	Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance or drug); additional sequential infusion, up to 1 hour
Administration	90768	Intravenous infusion, for therapy, prophylaxis,, or diagnosis (specify substance or drug); concurrent infusion
Administration	90772	Therapeutic, prophylactic, or diagnostic injection (specify substance or drug): subcutaneous or intramuscular
Administration	90774	Therapeutic, prophylactic, or diagnostic injection (specify substance or drug); intravenous push, single or initial substance/drug
Administration	90775	Therapeutic, prophylactic, or diagnostic injection (specify substance or drug); each additional sequential intravenous push
Administration	90781	IV infusion, each additional hour up to 8 hrs
Administration	96360	Intravenous infusion, hydration, INITIAL, 31 minutes to 1 hour
Administration	96365	General admin
Administration	96366	General admin
Administration	96369	General admin
Administration	96370	General admin
Administration	96372	General admin
Administration	96374	General admin
Administration	96379	Unlisted therapeutic, prophylactic, or diagnostic intravenous or intra-arterial injection or infusion
Administration	96400	Chemo admin, subq or intramuscular non hormonal antineoplastic
Administration	96401	Chemo admin, subq or intramuscular non hormonal antineoplastic
Administration	96402	Chemo admin
Administration	96405	Chemo admin, intralesional up to and including 7 lesions
Administration	96406	Chemo admin, intralesional more than 7 lesions
Administration	96408	Chemo admin, intravenous, push techique single or initial substance/drug
Administration	96409	Chemo admin, intravenous, push techique single or initial substance/drug
Administration	96410	Chemo admin, IV infusion up to 1 hour
Administration	96411	Chemo admin each additional substance/drug
Administration	96412	Chemo admin, each additional hour, 1-8 hours
Administration	96413	Chemo admin, IV infusion up to 1 hour
Administration	96414	Chemo admin, IV infusion, initiation of infusion w/pump more than 8hours
Administration	96415	Chemo admin, each additional hour, 1-8 hours
Administration	96416	Chemo admin, IV infusion, initiation of infusion w/pump more than 8hours
Administration	96417	Chemo admin, each additional sequential infusion (new drug) up to 1 hour
Administration	96420	Chemo admin, intra-arterial, push techique
Administration	96422	Infusion technique, up to 1 hr
Administration	96423	Infusion technique, each additional hour up to 8 hours
Administration	96425	Infusion technique, initiation of prolonged infusion over 8 hrs with pump
Administration	96440	Chemo admin into Pleural Cavity requiring and including Thoracentesis
Administration	96445	Chemo admin in Pertioneal Cavity w/thoracentesis
Administration	96450	Chemo admin into CNS, incl. Spinal Puncture
Administration	96520	Refill and Maintenance of Portable Pump
Administration	96521	Refill and Maintenance of Portable Pump
Administration	96522	Refill and Maintenance of Implantable Pump
Administration	96523	Irrigation of implanted venous access device for drug delivery systems
Administration	96530	Refill and Maintenance of Implantable Pump
Administration	96542	Chemo Inj, Subarachnoid or Intraventricular via SC reservoir
Administration	96545	Provide Chemotherapy Agent
Administration	96549	Unlisted Chemotherapy Procedure
Administration	99555	HOME INFUSION CHEMOTHERAPY PER DIEM
Administration	99601	Code nursing "per visit (up to 2 hours), at home
Administration	99602	Code nursing "each additional hour, at home
Administration	G0347	Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance or drug); initial, up to 1 hour
Administration	G0348	Intravenous infusion, for therapy, prophylaxis or diagnosis (specify substance or drug); each additional hour, up to 8 hours
Administration	G0349	Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance or drug); additional sequential infusion, up to 1 hour
Administration	G0350	Intravenous infusion, for therapy, prophylaxis,, or diagnosis (specify substance or drug); concurrent infusion
Administration	G0351	Therapeutic, prophylactic, or diagnostic injection (specify substance or drug): subcutaneous or intramuscular
Administration	G0353	Therapeutic, prophylactic, or diagnostic injection (specify substance or drug); intravenous push, single or initial substance/drug
Administration	G0354	Therapeutic, prophylactic, or diagnostic injection (specify substance or drug); each additional sequential intravenous push
Administration	G0355	Chemo admin, subq or intramuscular non hormonal antineoplastic
Administration	G0356	Chemotherapy administration, subcutaneous or intramuscular; hormonal anti-neoplastic
Administration	G0357	Chemo admin, intravenous, push techique single or initial substance/drug
Administration	G0358	Chemotherapy administration, intravenous; push technique, each additional substance/drug
Administration	G0359	Chemotherapy administration, intravenous infusion technique; up to 1 hour, single or initial substance/drug
Administration	G0360	Chemotherapy administration, intravenous infusion technique, each additional hour, 1 to 8 hours
Administration	G0361	Chemo admin, IV infusion, initiation of infusion w/pump more than 8hours
Administration	G0362	Chemotherapy administration, intravenous infusion technique; each additional sequential infusion, (different substance/drug) up to 1 hour
Administration	G0363	Irrigation of implanted venous access device for drug delivery systems
Administration	S9061	Aerosolized drug (e.g. pentamidine)
Administration	S9338	Immunotherapy (e.g. immunoglobulin): infusion
Administration	S9346	ADMIN Alpha-1 proteinase inhibitor (e.g. Prolastin): infusion
Administration	S9347	Uninterrupted, long term, controlled rate (e.g. epoprostenol): intravenous or subcutaneous infusion
Administration	S9351	Anti-emetic: continuous or intermittent infusion
Administration	S9357	Enzyme replacement (e.g. imiglucerase): intravenous infusion
Administration	S9359	Anti-tumor necrosis factor (e.g. infliximab): intravenous infusion
Administration	S9370	Anti-emetic: intermittent injection
Administration	S9560	Hormonal (e.g. leuprolide, goserelin): injectable
Administration	S9562	Palivizumab (e.g. Synagis): injectable
E&M	99201	E&M Level 1 - New patient visit
E&M	99202	E&M Level 2 - New patient visit
E&M	99203	E&M Level 3 - New patient visit
E&M	99204	E&M Level 4 - New patient visit
E&M	99205	E&M Level 5 - New patient visit
E&M	99211	E&M Level 1 - Established patient visit
E&M	99212	E&M Level 2 - Established patient visit
E&M	99213	E&M Level 3 - Established patient visit
E&M	99214	E&M Level 4 - Established patient visit
E&M	99215	E&M Level 5 - Established patient visit
E&M	99241	E&M Level 1 - Outpatient
E&M	99242	E&M Level 2 - Outpatient
E&M	99243	E&M Level 3 - Outpatient
E&M	99244	E&M Level 4 - Outpatient
E&M	99245	E&M Level 5 - Outpatient