



GH 101 Sample Detailed Study Manual

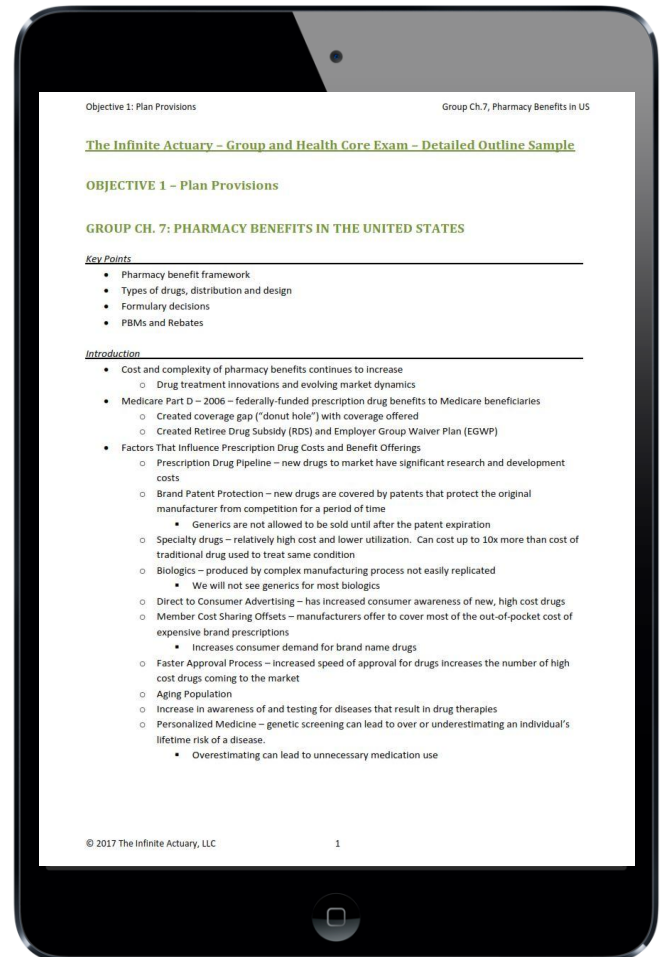
You have downloaded a sample of our Group & Health 101 Exam detailed study manual. The full version covers the entire syllabus and is included with the online seminar.

Each portion of the detailed study manual is available in PDF with a clickable table of contents for ease of navigation in your favorite desktop, tablet, or smartphone PDF viewer.

Though not shown in the sample material, we also offer condensed versions of the detailed study manual and PDF handouts for all video lessons.

If you have additional questions about the detailed study manual or any aspect of the exam, please email me.

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The Infinite Actuary – Group and Health 101 Exam – Detailed Outline Sample

OBJECTIVE 1 – Plan Provisions

GROUP CH. 7: PHARMACY BENEFITS IN THE UNITED STATES

Key Points

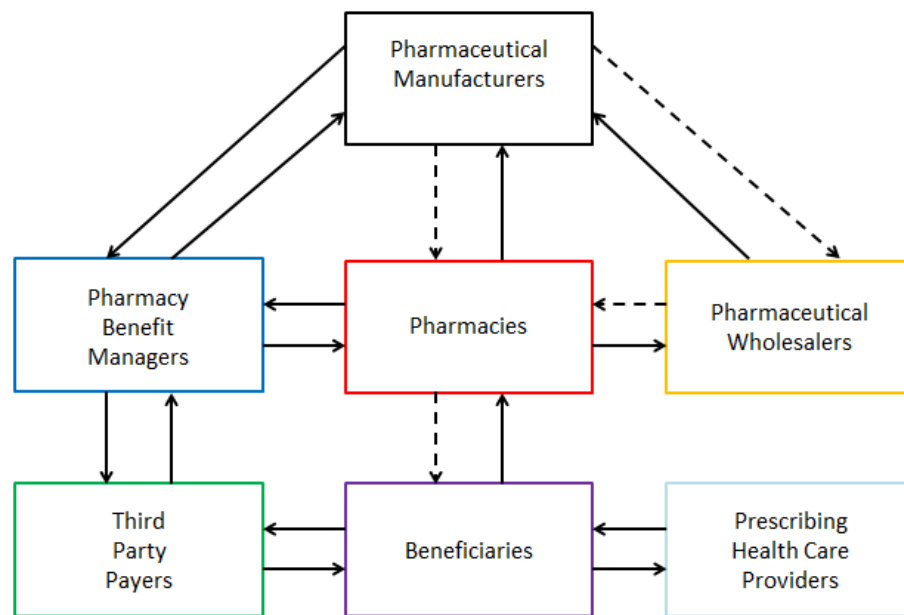
- Pharmacy benefit framework
- Types of drugs, distribution and design
- Formulary decisions
- PBMs and Rebates

Introduction

- Cost and complexity of pharmacy benefits continues to increase
 - Drug treatment innovations and evolving market dynamics
- Medicare Part D – 2006 – federally-funded prescription drug benefits to Medicare beneficiaries
 - Created coverage gap (“donut hole”) with coverage offered
 - Created Retiree Drug Subsidy (RDS) and Employer Group Waiver Plan (EGWP)
- Factors That Influence Prescription Drug Costs and Benefit Offerings
 - Prescription Drug Pipeline – new drugs to market have significant research and development costs
 - Brand Patent Protection – new drugs are covered by patents that protect the original manufacturer from competition for a period of time
 - Generics are not allowed to be sold until after the patent expiration
 - Specialty drugs – relatively high cost and lower utilization. Can cost up to 10x more than cost of traditional drug used to treat same condition
 - Biologics – produced by complex manufacturing process not easily replicated
 - We will not see generics for most biologics
 - Direct to Consumer Advertising – has increased consumer awareness of new, high cost drugs
 - Member Cost Sharing Offsets – manufacturers offer to cover most of the out-of-pocket cost of expensive brand prescriptions
 - Increases consumer demand for brand name drugs
 - Faster Approval Process – increased speed of approval for drugs increases the number of high cost drugs coming to the market
 - Aging Population
 - Increase in awareness of and testing for diseases that result in drug therapies
 - Personalized Medicine – genetic screening can lead to over or underestimating an individual’s lifetime risk of a disease.
 - Overestimating can lead to unnecessary medication use

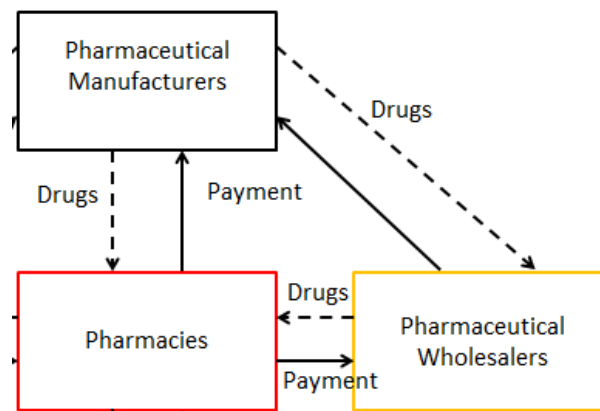
The Pharmacy Benefits System Framework

- Framework for current prescription drug system in the US

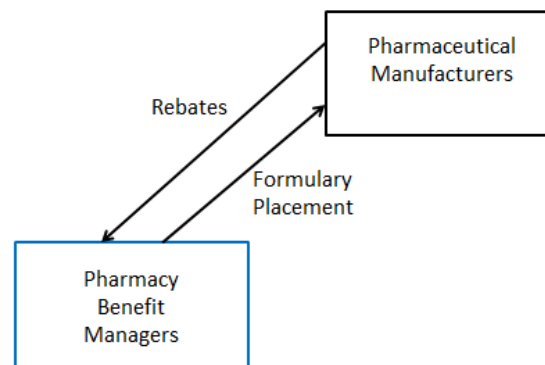


- (Dashed lines represent flow of drugs. Solid lines represent flow of other items (prescriptions and payments))

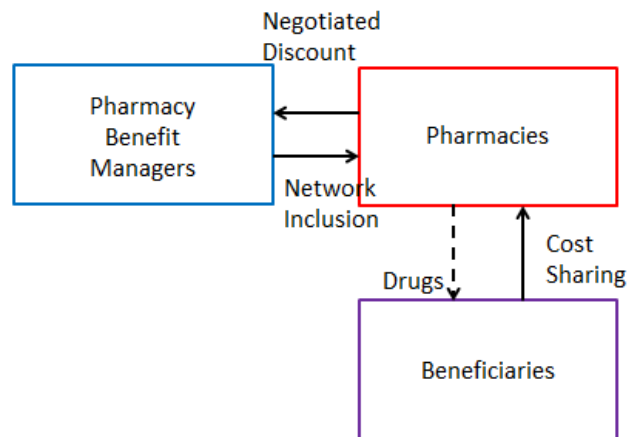
- Seven Entities in Prescription Drug Framework
 - 1. Pharmaceutical Manufacturers – research, produce and distribute drugs
 - 2. Pharmaceutical Wholesalers – purchase from manufacturers and distribute to pharmacies
 - 3. Pharmacies – dispense drugs to beneficiaries
 - 4. Pharmacy Benefit Managers (PBMs) – administer drug benefit programs. May be affiliated with insurance company or may be independent
 - 5. Third Party Payers – insurance company, employer or govt programs that fund drug benefits
 - 6. Beneficiaries – consumers of drugs
 - 7. Prescribing Health Care Providers – diagnose and prescribe drugs
- More detail regarding each group:
- 1. Pharmaceutical Manufacturers
 - Research, obtain approval for, produce and distribute drugs
 - Largest ones include: Pfizer, Novartis, Roche, Merck, Sanofi, GlaxoSmithKline, AstraZeneca, Lilly and AbbVie
 - Provide drugs to wholesalers and also direct to pharmacies
 - Smaller, independent pharmacies usually use wholesalers
 - Payment
 - Wholesale Acquisition Price (WAP)
 - Average Wholesale Price (AWP)
 - Also pay wholesalers a chargeback as reward for meeting sales or volume goals



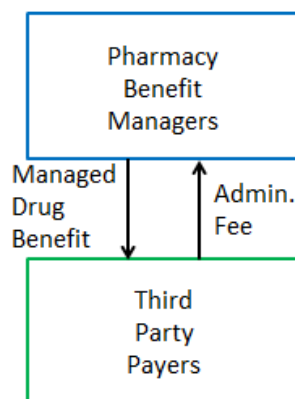
- Also negotiate with PBMs – encourage individuals to purchase their product
 - PBMs get rebates for favorable formulary placement of drugs (lower cost sharing, etc)



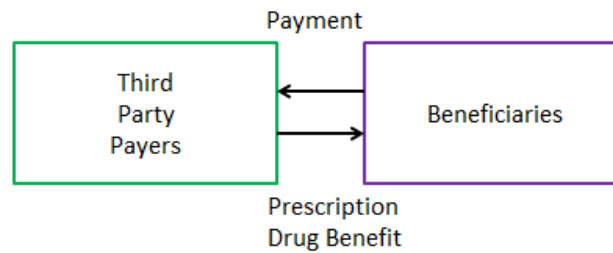
- 340B drug pricing program
 - Some manufacturers are involved in this
 - Enables health care organizations to provide care to underserved population to get drugs at a discount
- Manufacturers also employ a sales force to increase awareness of their drug's benefits among medical professionals
- 2. Pharmaceutical Wholesalers
 - Purchase drugs from manufacturers and distribute to pharmacies
 - Utilize large size and purchasing power to get lower costs
 - Largest ones include: McKesson, AmerisourceBergen, Cardinal Health
- 3. Pharmacies
 - Dispense drugs to beneficiaries and health care providers that administer drugs
 - Largest ones include: CVS, Walgreens, Rite Aid and Walmart
 - Pharmacy types: Retail (most common), mail order, and specialty (focus on high cost or complex drugs)
 - Negotiate with PBMs to be included in the PBMs network
 - Generates more customers
 - Dispense drugs to beneficiaries in exchange for cost sharing (copay or coinsurance)



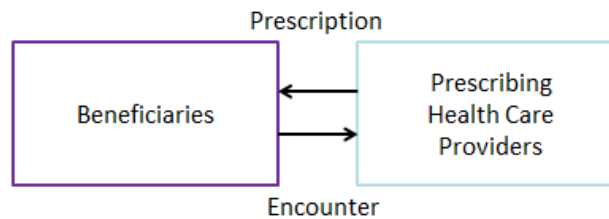
- 4. Pharmacy Benefit Managers (PBMs)
 - Administer drug benefit programs to customers
 - Largest ones include: Express Scripts, CVS, OptumRx, Prime Therapeutics
 - Services of a PBM
 - Manage claim payments (administrative)
 - Claim adjudication (administrative)
 - Manage call center (member services)
 - Issue insurance cards (member services)
 - Negotiate rebate with manufacturers
 - Negotiate discounts with pharmacies
 - Manage relationships with third party payers
 - Utilization management controls
 - Benefit feature incentives
 - Medical benefit integration
 - PBMs are paid an admin fee by third party payers (directly or indirectly)



- 5. Third-Party Payers
 - Insurance companies, employers or government programs that fund drug benefits
 - Interact with PBMs and beneficiaries
 - Employer may bear the risk, or may pass risk of claim fluctuations to insurance company for a fixed premium



- 6. Beneficiaries
 - Consumers of prescription drugs
 - Receive a prescription as a result of a medical encounter
 - Encounters include office visits, outpatient procedures or inpatient stays



- 7. Prescribing Health Care Providers
 - Diagnose, treat medical conditions and prescribe drugs
 - Doctors, physician assistants (PAs), advanced practice registered nurses (APRNs) and others
 - Prescribing laws vary by state
- Other Relationships
 - May be other relationships than those shown above, along with interrelationships and strategic partnerships

Types of Prescription Drugs

- Generic
 - Lowest cost and most common
- Brand Name
 - More expensive
 - Single Source Brand (SSB) – have no generic equivalent
 - Multi Source Brand (MSB) – have generic equivalent
- Specialty
 - Associated with high cost and low utilization
- Biologic
 - Derived from living organisms and usually very expensive
 - Biosimilars – subsequent version of biologics
 - Usually considered specialty drugs due to high costs
- Compound
 - Mixed by pharmacist
- Over-the-Counter (OTC)
 - Do not require prescription to purchase

Prescription Drug Lifecycle

- Prescription Drug Lifecycle
 - 1. Research and Development (R&D)
 - Drug discovery, preclinical testing, clinical trials, and FDA approval
 - Begin with 5,000-10,000 compounds in drug discovery period and narrowed down to about 5 during preclinical testing and 1 during FDA approval
 - Typically lasts about 15 years
 - 2. Brand Patent Protection Period
 - Exclusive right to manufacture the approved drug
 - Lasts 12 years
 - Gives company a chance to offset R&D costs
 - 3. Generic Exclusivity Period
 - 6 month period
 - Only brand name manufacturer and one other manufacturer can produce the generic
 - 4. Generic Drug Lifespan
 - All manufacturers can produce and sell the drug

Methods of Prescription Drug Distribution

- 1. Retail Pharmacies
 - Brick and mortar locations where people pick up drugs
 - Typically give one month supply (sometimes may give 3 month supply)
- 2. Mail Order Pharmacies
 - Send drugs via mail
 - Typically give three month supply
 - Often used for maintenance medications (taken for chronic conditions)
 - Usually cheaper and have cost savings opportunity for beneficiaries
- 3. Specialty Pharmacies
 - Focus on delivery of specialty drugs
 - May require special treatment in terms of storage and administration

Benefit Design

- Contracts may limit or exclude certain drugs
 - (e.g. over-the-counter and lifestyle drugs)
 - Ability to exclude certain types of drugs has been limited by regulations

Cost Sharing

- Copay – typically different copay amounts for different tiers
- Coinsurance
 - Coinsurance will increase with the tier of the formulary
 - If part of a major medical integrated plan, medical deductible must be met before the coinsurance takes effect. Drug claim is applied to the plan deductible
 - If plan is not integrated with a major medical plan, only drug claims are counted in meeting the drug deductible
- Combination cost sharing
 - One type uses the larger of a copay value or coinsurance as cost sharing

- Another type uses coinsurance with a dollar value maximum
- Coverage gap is a common feature of Medicare Part D plans
 - ACA phased out coverage gap by 2020
- Cost sharing is increasing as drug costs continue upwards
- Members may use less medication as out-of-pocket costs increase
 - May lead to unintended consequence of member not using drugs and having adverse health outcomes

Formularies

- Lists of preferred drugs
 - If a drug is listed on the formulary, it is said to be a “formulary” or “preferred drug”
 - If not listed, it is “non-formulary” or “non-preferred”
- 3 types of formulary-related benefit designs
 - Closed – only cover drugs that are listed on the formulary
 - Have a process to allow coverage of non-formulary medications based on medical necessity
 - Commonly found in Medicaid plans where cost sharing is very small
 - Open – formularies do not affect whether a drug is covered, but affect the cost sharing
 - Tiered (incentive) – have more than 1 cost sharing tier
 - Tiers may be assigned copays, coinsurance, or a combination of the two.
 - Most incentive formulary designs are open, but it is also possible with a closed formulary

Formulary Tiers

- Group drugs into tiers, and differentiate cost sharing by tier
- Two tier
 - Usually tier 1 (generics) and tier 2 (brand name drugs)
 - Tier 1 drugs have a low cost sharing amount, and tier 2 have a higher cost sharing
- Three tier
 - Tier 1 is generic, tier 2 is preferred brands, tier 3 is non-preferred drugs
 - Cost sharing levels increase as the tier level increases
 - Design is intended to help manage costs by encouraging patients and physicians to use the preferred tier
- Four tier
 - Most are variations of the three tier designs, with a particular group of drugs assigned to a fourth tier
 - Examples of 4th tier: chronic use maintenance drugs, lifestyle drugs (such as Viagra), and specialty (e.g. biologics)
- Five tier
 - Created by taking a four tier design and dividing the 4th tier into 2 tiers
 - Tier 4 becomes preferred specialty drugs, and tier 5 is non-preferred specialty drugs
- Six tier
 - Divide specialty drugs into 3 tiers
 - 4 being biosimilars, tier 5 preferred specialty drugs, tier 6 non-preferred specialty drugs
 - “biosimilars” are the closest thing to generics for biologic drugs...there are no true generics due to complex nature of biologics

Value-Based Insurance Design

- High value drugs
 - Drugs important in controlling chronic diseases
 - Not taking them causes the underlying condition to get worse
- Medication adherence – extent to which a patient takes a prescription drug exactly as directed
 - Affordability is one reason for poor adherence
- Value-based benefits reduce cost sharing on drugs and medical treatments identified as being “high value”
 - Commonly focuses on drugs for chronic diseases
 - Can save plan cost in the long run

Limitations on Usage

- Often with respect to the amount dispensed and frequency of refills
- Quantity Limit (QL) – limits number of refills or amount
- Prior Authorization (PA) – must obtain authorization from plan prior to getting a drug
- Step Therapy (ST) – members must try and also document usage of certain preferred drugs prior to gaining coverage for another (often more expensive) drug

Mandatory Generics and “Dispense as Written” Benefit Issues

- “Dispense as Written” or “DAW” requires the pharmacy to dispense the brand name drug rather than the generic substitute
 - Plan may choose to issue a DAW penalty
 - Member may pay brand cost, excluding what would’ve been paid for the generic
 - Plan may also encourage substitution of a therapeutically equivalent drug

Formulary Design

Assignment to Tiers

- PBMs and third-party payers work together to make decisions on which drugs to cover and formulary tier placement
- Example three-tier formulary
 - Tier 1: Generics
 - Tier 2: Preferred brands
 - Tier 3: Multi-source brands and non-preferred single source brands
- Encourages members to use lower-cost generics
- Can result in higher cost single source drugs and preferred multi-source drugs being on tier 2 (or “on formulary”)
 - Can result in the average cost of drugs in tier 2 > in tier 3

- Formulary should generally include the majority of beneficiaries’ drug needs (90-95%)
- Many hospital may have their own formularies

Pharmacy and Therapeutics (P&T) Committee

- Considerations about Whether to Include Formulary
 - Safety
 - Efficacy
 - Adequate coverage within a therapeutic class of drugs
- Determined by P&T committee
 - Consists of physicians, pharmacists and other clinicians

- Ideal to have independent, objective and unbiased formulary coverage decisions
- P&T Decisions for Drugs for Formulary Coverage
 - Don't cover the drug
 - Cover the drug
 - Interchangeable/may cover
- Product must first be deemed safe, effective and worthwhile compared to alternatives (many drug pairs are considered interchangeable)
 - Then assess financial impact

PBMs and Pharmacy Networks

- PBM / health plan contract will state a discount level and a dispensing fee for use of the PBM pharmacy network
- Plan may negotiate contracts directly with pharmacies and establish its own network
- Discounts from AWP will vary between mail and retail, with mail discounts being higher
- Generic discounts based on MAC (maximum allowable cost)
 - It is important to identify which MAC is being used
- MAC discounts from AWP range from 50% to 80% for generics
 - Brand name discounts from 10% discount from AWP to over 20%
- Dispensing fees vary between mail and retail but do not typically vary between brand name and generic
- PBM/pharmacy contracts may differ from the PBM's contract with the health plan.
 - The amounts the PBM pays the pharmacies may differ from what the health plan pays the PBM
- Two Primary Models for PBMs to Contract Third-Party Payers
 - Transparent Model ("pass through model")
 - Pharmacy discounts negotiated by PBM are used to determine claim liability of third-party payer
 - Traditional Model ("lock-in pricing")
 - Pharmacy discounts are not passed directly to third-party payer
 - Third-party payer receives the rates that they contract with the PBM at each pharmacy

Rebates

- Rebates are payments from manufacturers for preferred status of their drugs on a formulary
- May be fixed amount times number of units sold or could be variable based on market share or volume
- PBMs may get better rebate arrangements than a health plan contracting directly, especially if plan has >500,000 lives
- Key Factors to Determine Negotiating Leverage with Manufacturers for Pharmacy Rebates
 - Number of lives represented
 - Ability to move market share to preferred products
 - Consistency of the plan's response to a manufacturer's actions
- PBM source of revenue may be admin fees explicitly charged to third-party payer, retention of a portion of the rebates, spread on drugs dispenses, price protection to limit price increases or other sources
- Third-party payer should consider inflation factor on minimum rebate guarantee
- Transparency of drug contracts, including discounts and rebates, is often required by large employers or government contracts

Legal Issues Arising with Respect to PBMs

- No PBMs are currently owned by manufacturers
 - Legal concerns in the past about this – seen as using anti-competitive pressures
 - Merck first purchased a PBM in 1993 and others did the same but quickly sold them off at a considerable loss
- Recent trend is consolidation and strategic partnership between PBMs and pharmacies
- Third-party payer should be aware of the formulary management process and decisions around formulary design
 - Should also develop well-documented process to show no undue conflict of interest from all sides

OBJECTIVE 2 – Manual Rates

GHC 101-13: GROUP DISABILITY INSURANCE – PRICING AND CLAIMS PRACTICES

Key Points

- Steps to calculate gross premiums for STD and LTD
- Experience Rating for disability
- Credibility for disability
- Steps of Claims Process

Section 4 – Pricing of Disability Coverage

Manual Rating

- Use assumptions to determine expected claim cost
- Combine with expense, profit, and other assumptions to determine premium

Base Rates/Premium

- For LTD, base rates represents expected monthly claim cost
 - $Base\ rate_{x,g,e,w} = I_{x,g,e,w} \times Reserve_{x,g,e,0} / 12$
 - Where:
 - $Base\ rate_{x,g,e,w}$ represents age x, gender g, elimination period e, and maximum benefit duration w
 - I = incidence (or frequency rate)
 - $Reserve_{x,g,e,0}$ = Reserve at time 0
- Base premium determined by multiplying base rate by units of benefit
 - Also $Monthly\ Base\ Premium = I \times Total\ Liability / 12$
- STD base rate
 - $Base\ rate_{x,g,e,w} = I_{x,g,e} \times D_{x,e,w} / 12$
 - Where:
 - $D_{x,e,w}$ represents expected length of claim in weeks
- Examples:
 - LTD Rating
 - 35 yr old female, 90 day elim. period, benefits end at age 65, \$2,000 monthly benefit
 - $I_{35,f,90} = 0.0055$ (e. g. 5.5 annual claims per 1000 lives insured for one year)
 - $Reserve_{35,f,90,0} = 50$ (assuming monthly benefit of \$1)
 - $Base\ rate_{35,f,90,65} = 0.0055 \times 50 / 12 = 0.023$
 - $Monthly\ Base\ premium = 0.023 \times \$2,000 = \$46$
 - If total liability = \$100,000 (given)
 - $Expected\ Annual\ Claim = \$100,000 \times 0.0055 = \550
 - $\$550 / 12 = \46 per month

- STD Rating
 - 35 yr old female, 8 day elim. period, benefits end after 26 weeks, \$1,000 weekly benefit
 - $I_{35,f,8} = 0.08$ (e.g. 80 annual claims per 1000 lives insured for one year)
 - $D_{35,f,8,26} = 7$
 - $\text{Base rate}_{35,f,8,26} = 0.08 \times 7/12 = 0.047$
 - $\text{Monthly Base premium} = 0.047 \times \$1,000 = \$47$
 - If total liability = \$7,000 (given)
 - $\text{Expected Annual Claim} = \$7,000 \times 0.08 = \$560$
 - $\$560/12 = \47 per month

Offset Credits

- Other income can offset amount of monthly benefit and corresponding reserves
- Offset credits calculated by multiplying amount of offset by base rate
- For SSDI, pension, and workers' compensation may be same base rate used to calculate base premium
- For shorter offsets, a different base rate must be used.
- Called Base Premium with Offset Credit (net base premium or NBP)

Demographic Adjustments

- Multiplicative factors to reflect salary, occupation, industry and geographic location

Plan Provision Adjustments

- Multiplicative adjustments to reflect definition of disability, maximum monthly benefit, minimum monthly benefit, and pre-existing condition exclusions
- Account for ancillary benefits, pension, conversion, and survivor benefits
- If employees can select coverage, need factor for adverse selection
- Adjusting NBP for demographic and plan provisions result in "final claim cost"

Non-claim Adjustments (Retention)

- Commissions, insurance expense, and premium taxes

Profit

- Typically expressed as percent of premium

Experience Rating

- Steps in experience rating
 - 1. Determining a manual claim rate
 - 2. Determining experience-based claim rate
 - 3. Blending the two into a case claim rate
 - 4. Adding expenses and profit charges to arrive at case premium rate

Manual Claim Rate

- Based on the structure outlined above
- Removing the expense and profit

Experience-based Claim Rate

- Most recent 3 – 5 year period is used
- Paid claims and reserves discounted to midpoint of the experience period, or, to disability date of each claim
- If large claims are pooled, a pooling charge should be added
- Total discounted incurred claims divided by exposure (units of covered salary)

Case Claim Rate

- Credibility calculated as function of premium claims or covered lives
- Most carriers assign full credibility between 15,000 – 25,000 lives for LTD and 400 – 1,500 lives STD
 - $Credibility (Z) = \frac{N}{N+K}$
 - $N = \text{number of life years}$
 - $K = \text{constant}$
 - Sample value for K: 5,000 (for LTD) and 250 (for STD)
- $Blended\ Rate = (Manual\ Claim\ Rate) \times (1 - Z) + (Experience\ Claim\ Rate) \times (Z)$

Determining the Case Premium Rate

- Usually dividing the blended rate by an applicable target loss ratio

Section 7 – Claims Practices

Claims Practices

- Claims Process Steps:
 - Eligibility
 - Disability determination
 - Payment calculation
 - Offsets
 - Ongoing proof of disability
- More resources spent assessing validity of LTD claims than STD
- Details of Steps:
 - Eligibility
 - In a class of employees that is insured?
 - Plan in-force on date of disability?
 - Meet actively at work requirements?
 - Does cause of disability fall under pre-existing condition exclusion?
 - Definition of Disability
 - Comparing individual's disabling limitations to physical requirements of occupation
 - Occupation can be narrowly defined or defined broadly against definition of occupation in national economy
 - Payment amount
 - Pre-disability income times benefit percent less offsets

- Offsets
 - Key LTD offset is Social Security disability
 - Applying for Social Security disability process:
 - 1. Initial application
 - 2. If denied, appeal for reconsideration
 - 3. If denied again, hearing with an Administration Law Judge
- Ongoing Proof of Disability
 - STD benefits approved for specified period, based on guidelines
 - Claim at end of duration guideline either closed out or re-evaluated
 - LTD claims re-evaluated minimum of once per year
 - Any changes in claimant's medical condition or definition of disability needs to be re-evaluated
- Tools Used in Claims Process
 - Medical evaluation - Attending physician statements, independent medical exams, independent specialist physician review, functional capacity examinations conducted by physical therapists
 - Rehabilitation - Vocational rehabilitation, physical rehabilitation
 - Financial evaluation
 - Verification of pre-disability and current earnings
 - Claimant and insurer may agree to close a claim for some settlement payment
 - Insurer could be perceived as taking advantage of claimant
 - Fraud - Look for inconsistencies in information submitted, alterations to previously provided information, surveillance of the claimant
- Managed disability
 - Claim techniques to return disabled employees back to employment quickly

GROUP CH. 34: MEDICAL CLAIM COST TREND ANALYSIS

Key Points

- 3 Types of Trend
- Components of Trend
- Monitoring and Analyzing Trend

Introduction

- Measurement of periodic trends is very important
- “Trend” or “trend rate” refers to rate of growth of incurred claim cost per member per month (PMPM)
 - Can also refer to growth in sales, expenses, premium or other items
- Purposes of Trend Analytics
 - Reveal insights into insurer’s current benefit and rate structure and identify emerging areas of concern
 - Assist in setting future premium rates and/or budgets

Types of Trend

- Purpose for the trend is important
- Three Key Purposes for Medical Cost Trend
 - Financial Reporting
 - Pricing
 - Experience Analysis

Financial Reporting

- Purpose of financial reporting – determine financial performance during a given period
- Criteria for Trend Analysis in Financial Reporting
 - Reporting is retrospective, but budgeting requires projected claims for the next few years
 - Reporting done at enterprise level, as well as local levels
 - If statutory basis, margin for adverse deviation is required. If GAAP basis, use best-estimate basis
- $\text{Incurred Claims} = \text{Net Paid Claims} + \text{Reserves End of Year} - \text{Reserves Beg. of Year}$
- Usually, general ledger reporting systems don’t have enough detail to perform a trend study, so you must rely on electronic data warehouse (EDW)
 - EDW may only include payments for a specific claim and not aggregate amounts such as for a lawsuit or bonus payments
 - Processing times between EDW and general ledger will vary (different cut-off and loading dates)

Pricing

- Used to project experience to a new time period for premium rate setting or budgeting
- Typically relies on data from EDW
- Trends may be calculated on eligible, covered or net paid basis
 - Eligible – billed charges before provider contracts or discounts are applied
 - Good for looking at underlying patterns without effects of contracts and cost-sharing
 - Covered charges – eligible claims after provider contracts/discounts but before member cost-sharing

- Gives info about underlying patterns including contracting but without member cost-sharing
 - Net paid claims – bottom line, after contracting and member cost-sharing
 - Provides overall net paid trend
- Trends are very specific to a time period

Calendar Yr 2015 PMPM - incurred and paid through 6/30/2015	\$119.00
Incurred but not paid completion factor	1.10
Projected incurred claims through 6/30/2015	\$131.00
Seasonality Adjustment	2.10
Projected calendar year 2015 incurred claims	\$275.00
Trend Factor, 2015 to 2016	6.2%
Projected calendar year 2016 claims	\$292.00

- Incurred claims here are different than incurred claims in financial reporting
 - Financial reporting only applies to retrospective claims (pricing has a combination of retro and projected claims)
 - No need for explicit correction factor, since projections should be based on latest information

Experience Analysis

- A look at how experience for a specific block of business is changing over time
- Based on retrospective claims
- Techniques to incorporate unreported claims into analytics (based on reports from EDW)
 - Use standard set of completion factors

Incurred Period	Paid Through	Paid PMPM	Completion Factor	Completed PMPM
Calendar Year 2014	3/31/2016	\$247.50	1.01	\$249.98
Calendar Year 2015	3/31/2016	\$264.50	1.04	\$275.08
Trend		$= \$275.08 / \$249.98 - 1$		10.0%

- Use completion factor at a later time after the in-depth review of completion patterns
- Equal runoff method
 - Incomplete claims are compared to similarly incomplete claims from the prior period
 - (Implicit assumption is that runoff amount and timing is similar in both periods)

Incurred Period	Paid Through	PMPM
Calendar Year 2014	3/31/2015	\$242.00
Calendar Year 2015	3/31/2016	\$264.50
Trend	= \$264.5 / \$242. - 1	9.3%

Developing Pricing Trends – Component Method

- Component method – evaluate trend on each component and then aggregate
 - Advantage – straightforward to evaluate and explain specific impacts
 - Disadvantage – considerable resources required to work through each component

Core Cost Trend

- Rate of increase in the covered cost per service (before adjustments for aging or one-time changes)
- Key Pieces of Core Cost Trend
 - Unit Cost Trend
 - Measure change in cost of actual product year over year (similar to inflation measure)

- Severity
 - Increase in intensity of treatment
 - E.g. moving from 15-minute office visits to 30-minute office visits
 - Uses weighted classification systems to give weight per admission
- Mix of Services
 - Could be distribution of inpatient v. outpatient v. professional fees or mix of providers used
 - Very complex
 - Sometimes may be a balancing item and determined by examining historical trends
- Components are multiplicative: $Trend = Unit\ Trend \times Severity\ Trend \times Mix\ of\ Services\ Trend$
- Most insurers adjust unit cost trend for product and area differences
- Usually use overall book data for severity and mix trends

Core Utilization Trend

- Changes in utilization due to external forces such as economy, workdays and changes in medical practice
- When economy is stable, can be predicted by econometric models
 - In unstable times, factors like fear of layoffs may disrupt historical patterns
- Utilization may vary by weekday and placement of holidays
 - Monday is most frequent day for doctor visits
 - Less hospital admissions on Fridays
 - Less prescriptions filled on Wednesdays
- One-time events like patent expiration of drugs may cause changes
- Gradual changes also occur

One-Time Changes

- Represents response to specific, one-time events based on specific, identifiable situations
- Examples where trend is expected to return back to normal
 - High flu seasons – goes up one year but likely to return to normal level next year
 - Weather events – utilization decreases during a hurricane or large event, though a small increase is expected soon after
- Examples where a sustained change may occur (i.e. won't revert back to the "normal" level)
 - Legislation – new mandated benefits cause increased costs
 - Internal changes – changes in processing and procedures at insurer may affect cost trends

Expected Population Shifts

- Underlying population may shift as member leave and enter the group
- Geographic location can be easily estimated
 - Can use scale area factors to adjust for this
- Demographic or age-gender mix may change
 - Populations age and new entrants don't always offset this impact

Structural Changes

- If no structural changes, then must consider above items and leveraging due to deductibles and copays

	Projected 2015	Projected 2016	Trend
Primary Care Office Visit			
Average Covered Amount	\$100	\$105	5.0%
Copay	\$25	\$25	0.0%
Net Paid	\$75	\$80	6.7%

- If there are structural changes, the trend needs to reflect the leveraging change AND expected changes in insured's behavior
 - Structural changes could include benefit changes, changes to clinical programs or network changes
 - If benefits are reduced, people may use less of them (don't want to pay as much)
 - If benefit costs increase, healthy members may leave the plan or switch to a lower-cost plan, with only higher risk/cost members staying in the plans
- Benefit Rush-Hush-Crush
 - When a big change is announced beforehand and affects utilization
 - Rush – people rush to use benefits with the outgoing plan (often richer benefits)
 - Hush – less usage in the next quarter because people already got their treatments and also have uncertainty about how new plan works
 - Crush – usage returns to normal, but the trend rate for that year is very high because it's coming from an abnormally low prior year period (starting at "hush" levels)
 - Common Examples
 - Moving to Consumer Driven Health Plan – introduces high deductible plan, so consumers opt to receive certain services prior to this change
 - Change in Insurer – creates air of uncertainty, so consumers use existing coverage while they still can

Capitation

- Providers are paid a capitation rate/fee for each member of a given population
- Changes in average fee may impact the trend

Final Trend Rates

- May want to add a margin to the component trend rate for use of a premium or budget
 - E.g. add a factor such as 2% to the final trend rate
 - Or could vary the margin year by year, based on the certainty/confidence in that period's calculation
- For competitive pricing purposes, insurer may want to use a trend rate below the best estimate rate
- If stop-loss or pooling in place, there will be fewer low frequency and high cost claims and overall variability will be dampened
 - Trend for net paid claims above stop-loss limit will be higher than overall rate due to leveraging

Monitoring and Analyzing Trends

- Insurers typically produce financial and pricing trends on monthly or quarterly basis
- Questions to Consider
 - How accurate were original trend and PMPM estimates?
 - Which assumptions drive variation from expected to actual trend estimates?
 - How can process be modified to be more accurate?
 - What other factors (expected or unexpected) drove the trends?

Validating Prior Pricing Trend Estimates

- First step is to determine difference in original estimate and current estimates of trend
- Each component should be analyzed from period to period
 - Substitute actual experience for projected experience
 - Actual trends may be close in total, but this identifies differences in components as well
- Reasons Core Cost Trend May be Understated
 - One-time, unforeseen contract negotiation occurred
 - Systematic understatement of core cost trends

Analyzing Results

- Going beyond population shifts and one-time changes to determine key drivers of costs and trends
- Typical method is to analyze trend by service type (i.e. inpatient, outpatient, professional, mental health)
 - Note that a look at a few periods will be more comprehensive
 - E.g. 2017 trend may look small for a certain group simply because 2016 trend was high for that group, so the base value started at an artificially high level

Taking a Broader and Longer View

Looking Back

- Volatile trends during the 1990s
 - Rapid rise of network plans
 - Richer benefits were offset by lower covered charges, leading to substantial savings
 - Trend varied considerably from insurer to insurer depending on mix of business
 - Late 90s – trend increased rapidly
 - Savings was already accounted for in claims costs, but trend rates then accelerated

Looking Forward

- 2014 – trend rates at lowest level in almost 20 years
- Key Factors Influencing Future Medical Cost Trends
 - Impact of Exchanges
 - Enrollees may be expected to change plans more frequently
 - Insurer must better understand the impact of population shift component of trend
 - Cost-Savings Initiatives
 - E.g. Accountable care organizations, clinical interventions and wellness programs
 - ROI typically used for this
 - Economic Indicators
 - Items such as personal disposable income help determine trend directions, but with healthcare reform, new indicators may be needed