# Future Purchase Options vs. Traditional Inflation Options

LTCi Producers Summit

February 24, 2008

Dawn E. Helwig, F.S.A., M.A.A.A (312) 499-5578

Dawn.Helwig@milliman.com

Al Schmitz, F.S.A., M.A.A.A (262)796-3477 Allen.schmitz@milliman.com



### **Presentation Outline**

- History of 5% Compound Inflation
- 5% Compound Pricing Primer
- Inflation Options and Issues
  - GPO
  - Inflating Remaining Lifetime Maximum
  - **–** 3%, 4%, 5%
  - Simple Inflation
  - Inflation up to 2 times, 3 times etc.
  - Daily Benefit, Remaining Max, and Premium all increase same percentage
  - Increase Daily Benefit 5%, lifetime maximum 3% (JH approach)
  - Increase Daily Benefit and lifetime maximum by CPI
  - Partnership Requirements
  - Effect of inflation on top of limited pay riders



# History of the 5% Compound Option

### NAIC LTC Model Regulation

- Must <u>offer</u> inflation protection no less favorable than one of the following:
  - Increases benefit levels annually so that the increases are compounded annually at a rate not less than 5%
  - Guarantees the insured the right to periodically increase benefit levels
    without providing evidence of insurability as long as the option for the
    previous period has not been declined. The amount of the additional
    benefit shall be no less than 5% compounded annually.
  - Covers a specified percentage of actual or reasonable charges and does not include a maximum specified indemnity amount or limit.



# History of the 5% Compound Option

### ■ 1990-1991 NAIC Proceedings

- Some on the committee wondered if the consumer had any meaningful protection without inflation protection
- Compounding was important issue
- Task force chair urged at least 5% compounded annually, arguing that less is no protection at all
- Committee worried about balance of cost vs. meaningful protection
- Committee originally recommended 7% but settled on 5%.



# History of 5% Compound Option

### NAIC 1992 Proceedings

- Debated mandated inflation protection coverage vs. mandated offer of inflation protection coverage
- Settled on mandated offer and signed rejection



# History of 5% Compound Inflation Option

- Not as costly if lapse rates are higher
- Percentage of policies sold with 5% compound inflation has changed over time
  - Influenced by average issue age
  - Influenced by pricing and profit expectations
  - Broker World 2007: 48% of sales and 39% of inforce policies have
     5% compound inflation for life

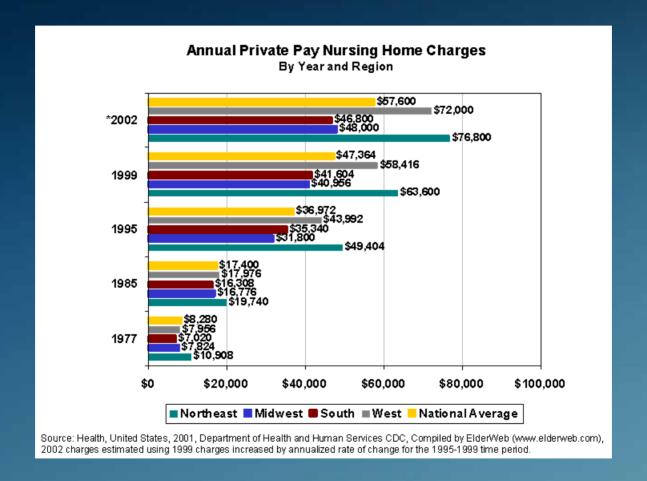


# Historic Long Term Care Cost Increases

- Vary by Nursing Home and Home Care
- Vary by private vs. "industry"



# Annual Increase in Private Pay Nursing Home Charges by Year and Region





# Annual Increase in Private Pay Nursing Home Charges by Year and Region

Region	1977-1985	1985-1995	1995-1999	1999-2002	1977-2002
Northeast	7.7%	9.6%	6.5%	6.5%	8.1%
Midwest	10.0	6.6	6.5	5.4	7.5
South	11.1	8.0	4.2	4.0	7.9
West	10.7	9.4	7.3	7.2	9.2
National	9.7	7.8	6.4	6.7	8.1

Source: Health, United States, 2001, Department of Health and Human Services CDC, compiled by ElderWeb (www.elderweb.com)



# Nursing Care Facility Producer Price Index

Data extracted on: February 20, 2008 (3:48:36 PM)

Producer Price Index Industry Data



U.S. Department of Labor Bureau of Labor Statistic

**Series Id:** PCU623110623110

Industry: Nursing care facilities
Product: Nursing care facilities

Base Date: 9412

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1997	113.1	113.3	113.6	113.8	113.9	114.0	115.3	115.5	115.6	116.0	116.0	116.3	114.7
1998	117.3	117.9	118.0	118.3	118.5	118.9	120.3	120.7	120.9	121.4	121.4	121.4	119.6
1999	122.4	122.7	122.8	122.9	123.1	123.5	124.6	124.8	125.0	125.5	125.6	126.3	124.1
2000	129.0	128.9	128.9	128.8	128.8	128.9	131.6	132.5	132.7	133.9	134.2	134.3	131.0
2001	135.9	136.3	136.7	137.8	138.0	138.3	141.0	141.3	141.3	141.5	141.6	141.6	139.3
2002	143.5	143.4	143.5	144.0	144.0	144.1	145.6	145.7	146.0	145.1	145.3	145.4	144.6
2003	147.3	147.6	147.7	148.0	148.4	148.7	150.1	150.0	150.1	151.2	151.5	151.7	149.4
2004	153.5	153.8	154.2	154.6	154.7	154.7	156.2	156.3	156.6	157.4	157.7	157.6	155.6
2005	159.7	159.9	159.9	160.5	160.7	160.8	162.0	161.8	162.3	163.0	163.3	163.3	161.4
2006	164.4	164.7	164.7	164.9	165.0	165.3	167.0	167.2	167.5	168.1	168.1	168.1	166.2
2007	170.9	171.3	172.1	172.5	172.5	172.8	174.3	175.5	173.7(P)	174.7(P)	175.3(P)	176.3(P)	173.5(P)

P: Preliminary. All indexes are subject to revision four months after original publication.

www.bls.gov



# Home Health Care Producer Price Index

Data extracted on: February 20, 2008 (3:32:56 PM)

Producer Price Index Industry Data



U.S. Department of Labor Bureau of Labor Statistic

Series Id: PCU621610621610

Industry: Home health care services
Product: Home health care services

Base Date: 9612

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1997	100.5	100.7	103.6	103.3	103.3	103.5	103.8	103.5	103.9	104.1	103.8	106.2	103.3
1998	105.5	105.7	105.9	106.3	106.4	106.5	106.3	106.2	106.3	106.3	106.7° art	106.7° f	106.2
1999	106.0	106.1	106.5	106.6	106.7	106.7	107.0	107.0	107.0	107.4	107.7	111.0	107.1
2000	111.1	111.4	109.9	109.9	110.1	110.1	111.6	111.7	111.9	111.8	112.0	112.1	111.1
2001	112.4	112.5	112.5	113.2	113.9	114.1	114.2	114.3	114.3	115.5	115.8	115.7	114.0
2002	116.0	116.0	116.0	116.8	116.7	116.8	117.3	117.8	117.8	116.2	116.0	116.1	116.6
2003	116.4	117.1	117.0	116.5	116.1	116.2	116.2	116.2	116.5	118.5	119.0	119.0	117.1
2004	119.6	119.6	119.6	119.7	119.7	119.7	119.8	119.8	119.8	120.2	120.2	120.4	119.8
2005	120.9	121.1	120.9	120.8	120.9	120.9	121.0	121.0	121.1	121.7	121.8	121.3	121.1
2006	121.5	121.6	121.7	121.7	121.8	121.9	121.8	121.9	121.8	122.3	122.2	122.3	121.9
2007	122.9	123.7	123.6	123.7	123.6	123.6	123.8	123.9	124.0(P)	124.5(P)	125.0(P)	125.0(P)	123.9(P)

P: Preliminary. All indexes are subject to revision four months after original publication.

www.bls.gov



# 5% Compound Inflation Option

- Mirrors true inflationary increases/increases in cost of care
- Other options will eventually "fall behind"
- Future purchase (CPI) options will eventually become too expensive.
- Compound is the only way for consumer to truly prepare for full cost of care, whenever it's needed.



# Why 5% Option has Been Supplemented with Other Options:

- Long term care pricing is heavily dependent on lapse rates; the lower the lapse, the higher the rate
- Compound inflation exacerbates this situation: with low lapses, more weighting is given to later durations, where the compound inflation has increased benefits
- Result: difference between 5% compound inflation rates and non-inflation rates needs to increase when lapses decrease
- Today: many inflation factors still based on "old" lapse assumption relativities...leads to rate subsidies



### What has happened to 5% compound rates?

### 2006 Broker World Survey 26 Comprehensive Products

\$100 Daily Benefit – *Lifetime Benefit Period*90-100 Day Elimination Period – with and without Inflation Protection

		Single -	Preferred - No	Inflation	
Issue				Maximum/	2006 Ave/
Age	Minimum	Average	Maximum	Minimum	2001 Ave
40	\$303	\$528	\$888	293%	-
50	\$535	\$681	\$936	175%	-
60	\$893	\$1,144	\$1,428	160%	1.23
70	\$2,007	\$2,742	\$3,641	181%	1.26
		Single - F	Preferred - Witl	n Inflation	
40	\$850	\$1,597	\$2,151	253%	-
50	\$1,270	\$1,893	\$2,559	201%	-
60	\$1,923	\$2,693	\$4,070	212%	1.42
70	\$3,608	\$5,047	\$7,676	213%	1.39



# What is 5% Compound as a Factor of non-Inflationary (5 year BP)?

Issue		Hancock	
Age	Genworth	(Essential Care)	Theoretical
42	2.07	2.94	4.47
52	2.08	2.61	3.40
62	1.87	2.03	2.55
72	1.61	1.65	1.85



# 5% Compound Profit Margins – Example from recent pricing, using "Industry" Inflationary Rates

	Pre-Ta	x Profit	Statutory IRR		
Issue	Non-		Non-		
Age	Inflation	Inflation	Inflation	Inflation	
42	19.8%	12.9%	16.3%	7.4%	
52	18.2	11.6	14.4	7.5	
62	20.4	21.9	16.6	15.3	
72	25.7	26.8	23.5	23.3	



### **GPO Options**

- Typical Design Offer attained age increase in coverage every 2-3 years. Offer tied to inflation index or flat 5%-10%. No underwriting.
- Key Product Variations
  - How often offered?
  - Amount of offer?
  - Offered while on claim?
  - Offered until reach certain attained age?
  - Knock-out if decline certain number of offers?
  - Option to change inflation protection to 5% compound (at given attained age)?
- Popular Group Option



### **GPO Options**

- Pricing Issues
  - Selection Issues
    - Health Issues
    - Duration since underwriting
    - Pure need to increase benefits
  - Increase all premiums vs only those who take the GPO
    - Adverse selection cost often applied as a flat percentage increase to all GPO policyholders
  - Reserve Issues



# **GPO Options**

Sample Premiums and Benefits: Issue Age 50

		(	GPO .		Compound Inflation			
Age	Premium	Daily Benefit	Pool (rounded)	Cumulative Premium	Premium	Daily Benefit	Pool (rounded)	Cumulative Premium
50	\$ 846	\$150	\$274 K	\$ 846	\$2,145	\$150	\$ 274 K	\$ 2,145
55	\$ 986	\$173	\$315 K	\$ 5,495	\$2,145	\$191	\$ 349 K	\$12,868
60	\$1,322	\$218	\$397 K	\$11,552	\$2,145	\$244	\$ 446 K	\$23,591
65	\$1,847	\$263	\$479 K	\$19,385	\$2,145	\$312	\$ 569 K	\$34,314
70	\$2,240	\$285	\$520 K	\$29,799	\$2,145	\$398	\$ 726 K	\$45,037
75	\$3,509	\$330	\$602 K	\$45,136	\$2,145	\$508	\$ 927 K	\$55,760
80	\$5,679	\$375	\$684 K	\$67,916	\$2,145	\$648	\$1,183 K	\$66,483
84	\$7,265	\$398	\$725 K	\$93,804	\$2,145	\$788	\$1,438 K	\$75,061

<sup>\*</sup> John Hancock Custom Care II, 5 year benefit period



# Inflate the Remaining Maximum or the Original Maximum?

Policy Year	Pool of Money	Daily Max	Benefits Paid	Benefit Period
(A)	(B)	(C)	(D)	(B)/(C)
1	\$182,500	\$100.00	0	1825 days
2	191,625	105.00	0	1825
3	201,206	110.25	0	1825
4	211,267	115.76	0	1825
5	221,830	121.55	40,000*	1825
	(221,830-40,000)			1496 left
6 – if remaining	X 1.05			+ 329 paid
max is inflated	=190,922	127.63	0	1825
	(221,830 x 1.05)			1512 left
6 – if full pool is	- 40,000			+ 329 paid
inflated	= 192,922	127.63	0	1840

<sup>\* 329</sup> days on claim



# Inflate the Remaining Maximum or the Original Maximum?

- Inflating original maximum causes the underlying benefit period to increase while a person is on claim
- Inflating remaining maximum results in a stable benefit period in days
- Inflating original maximum; therefore, the inflation option needs to cost more:
  - 6% increase in 2 year BP length of stay (increases premiums 3-4%)
  - 15% increase in 4 year BP
  - 23% increase in 6 year BP
  - 30% increase in 8 year BP



# Different Levels of Compound Inflation

- Amounts lower than 5% used to make inflation option more affordable
- 3% and 4% Options
- Appropriateness can be debated but some protection is better than none
- Significant premium differences for younger ages relative to 5% compound



# Different Levels of Compound Inflation

Premium and Benefit Levels for Issue Age 50

		3%			4%			5%		
Age	Premium	Daily Benefit	Benefit Pool	Premium	Daily Benefit	Benefit Pool	Premium	Daily Benefit	Benefit Pool	
50	\$1,408	\$150	\$273,750	\$1,683	\$150	\$273,750	\$1,958	\$150	\$ 273,750	
55	\$1,408	\$174	\$317,351	\$1,683	\$182	\$333,059	\$1,958	\$191	\$ 349,382	
60	\$1,408	\$202	\$367,897	\$1,683	\$222	\$405,217	\$1,958	\$244	\$ 445,910	
65	\$1,408	\$234	\$426,494	\$1,683	\$270	\$493,008	\$1,958	\$312	\$ 569,107	
70	\$1,408	\$271	\$494,423	\$1,683	\$329	\$599,820	\$1,958	\$398	\$ 726,340	
75	\$1,408	\$314	\$573,172	\$1,683	\$400	\$729,773	\$1,958	\$508	\$ 927,015	
80	\$1,408	\$364	\$664,463	\$1,683	\$487	\$887,880	\$1,958	\$648	\$1,183,132	

<sup>\*</sup> Allianz Generation Protector II



# Different Levels of Compound Inflation

Comparison of premiums by issue age: 5%, 4%, 3%

	Premiums				
Issue Age	3% Compound	4% Compound	5% Compound		
42	\$1,249	\$1,526	\$1,796		
52	\$1,435	\$1,700	\$1,966		
62	\$2,136	\$2,456	\$2,763		
72	\$4,851	\$5,301	\$5,752		

<sup>\*</sup> Allianz Generation Protector II



# Simple Inflation

- Easy to understand consumers can figure future policy benefits without a calculator
- Cost of insurance is not prohibitively expensive
- Appropriate protection if the consumer has other income sources that are inflation indexed, or
- Consumer is willing to accept an increasing co-pay over time
- Less expensive!



# Cost of Simple Inflation – John Hancock Custom Care

Issue	5%	5%
Age	Compound	Simple
42	2.78	1.53
52	2.52	1.71
62	2.03	1.64
72	1.65	1.47



### Inflation up to 2 times, 3 times, etc.

- Options generally aimed at decreasing premiums while maintaining reasonable benefit inflation increases
- Plan Variations
  - Inflation up to X times original daily benefit (2 or 3)
  - Inflation increases to age YY (age 65 or 70)
  - Inflation increases for ZZ years (20 or 25 years)



# Inflation up to 2 times, 3 times, etc.

Premium Comparison (GPO, 5%, 2X, 3X, Deferred to 65)

Issue Age	GPO	5%	5% up to 2X	5% up to 3X	5% Deferred to Age 65
42	\$ 395	\$1,314	\$ 634	\$1,009	\$ 594
52	\$ 617	\$1,807	\$1,056	\$1,605	\$1,062
62	\$ 963	\$2,318	\$1,726	\$2,251	\$2,032
72	\$2,312	\$3,891	\$3,800	\$3,891	N/A

<sup>\*</sup> Great American Flexible Benefit LTC



# Increasing Benefits, Lifetime Maximum and Premium All by 5%/year

- Option operates much like a future purchase option, except that aging is pre-funded and increases are automatic
- With FPO, increase in premium at each year should be the extra 5% for the additional benefit, but should be at the person's then attained age rate
- Given that the premium added does not contain the aging component, this needs to be pre-funded (i.e., through higher price at issue for this option)



# Advantages of this Approach:

- Easy to understand
- Policyholder used to premiums going up with inflation

# Disadvantages of this Approach:

Doesn't remove the lapse risk



# Increase Daily Benefit by 5% and Lifetime Maximum by 3% (JH approach)

- Each year, Daily or Monthly Benefit will increase by 5% and your Policy Limit will increase by 3% on a compounded basis.
- Will result in a decreasing calendar time period of coverage, assuming actual inflation costs are closer to 5%
- Communication can be complex
- Premiums can be more affordable varies by age and plan



# Increase Daily Benefit by 5% and Lifetime Maximum by 3% (JH approach)

Sample Premiums

Issue Age	GPO	5%	5% / 3%
42	\$ 506	\$1,439	\$1,066
52	\$ 613	\$1,581	\$1,226
62	\$1,066	\$2,201	\$1,865
72	\$2,745	\$4,644	\$4,184

<sup>\*</sup> John Hancock Custom Care II



# Increase Daily Benefit and Lifetime Maximum by CPI (JH Leading Edge)

- Allows for increases to vary with CPI (allows for increases greater than traditional 5% but not less than zero)
- CPI may not always correlate with cost of care inflation
- Premium cost is reasonable relative to 5% compound
- Insurance Company investment policy allows for pricing of stable premium amounts
- Significant Change in CPI will require new "new business" premiums



# Increase Daily Benefit and Lifetime Maximum by CPI (JH Leading Edge)

### Sample Premiums

Issue Age	Premium - GPO	Premium - CPI
42	\$ 315.00	\$ 819.00
52	\$ 531.00	\$1,125.00
62	\$ 972.00	\$1,710.00
72	\$2,538.00	\$3,726.00

<sup>\*</sup> John Hancock Leading Edge



# Partnership Requirements for Inflation

- Must have some inflationary coverage for all ages up through 76
- Must be some form of compound inflation for ages 60 and under
- Greatly increases the pressure for proper inflationary rates at younger ages (or profits will be impacted)



# Effect of Inflation Combined with Limited Pay Options

- Double whammy: limited pay factors should be higher when inflation is included (in addition to applying the inflation factor!)
- Some companies have different limited pay factors for inflation and non-inflation; others only have one set of factors
- Those with only one set: need to develop that set assuming everyone who purchases limited pay also has an inflation option



# Questions??