



**Reserving for Extended Reporting Endorsement Coverage, Including the Death, Disability and Retirement Policy Provision**

Prepared for: Casualty Loss Reserve Seminar  
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**Overview**

- Coverage
  - Extended reporting endorsement (ERE)
  - Death, disability and retirement policy provision (DDR)
- Reserving for
  - Issued EREs
  - DDR Policy Provision
    - What are we reserving for?
    - Is this reserve even needed?
    - Methodologies: traditional and proposed

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DDR and ERE  
**COVERAGE**



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**ERE Coverage**

- "Tail Policy"
- Offered upon claims-made expiration
- Fills gap between occurrence and claims-made coverage
- Typically of unlimited duration
  - Premium earned immediately
  - Loss and LAE reserve
- Can be of limited duration
  - Unearned premium reserve for unexpired portion
  - Loss and LAE reserve held for reported claims only
- SSAP 65-7

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**DDR Policy Provision**

- EREs are expensive
  - \$30,000 - \$100,000 for primary care physician
  - \$100,000 - \$500,000+ for a surgeon
- DDR policy provision
  - Pre-funds ERE coverage
  - Only provides ERE in event of
    - Death
    - Disability
    - Retirement
      - Often a tenure requirement

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Reserving for  
**ISSUED UNLIMITED ERES**

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## Reserving for Issued Unlimited EREs

- Two Methodologies
  1. Triangular Development
    - Policy year organization
    - Can also include in occurrence triangle
  2. Separate reported and unreported claims
    - Include reported claims with claims-made experience
    - Reporting pattern will indicate IBNR claims on unexpired portion of EREs

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## Reserving for Issued Unlimited EREs: Triangular Development

Policy Year	Months of Development		
	12	24	36
2007	\$12	\$16	\$20
2008	\$10	\$15	
2009	\$13		

Accident Year	Months of Development		
	12	24	36
2007	\$12	\$16	\$20
2008	\$10	\$15	
2009	\$13		

- Note: Can also be included in true occurrence triangle, but on a policy year basis only

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## Reserving for Issued Unlimited EREs: Separate Unreported Claims

Policy Year	(1) Exposures	(2) ERE Policy Pure Premium	(3) = (1) x (2) A Priori Ultimate	(4) Claims Unreported	(5) = (3) x (4) Indicated Unpaid on IBNR Claims
2007	80	\$ 9,070	\$ 725,624	20%	\$ 145,125
2008	90	\$ 9,524	\$ 857,143	45%	\$ 385,714
2009	100	\$ 10,000	\$ 1,000,000	75%	\$ 750,000

- Reported claims included with claims-made business
- Exposures should include purchased and DDR EREs
- Better for smaller companies

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What are we reserving for?

## DDR POLICY PROVISION

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### DDR Reserve – What are we reserving for?

- Not for issued EREs
  - Reserving for yet-to-be-issued EREs
  - But which ones?
- SSAP 65-8:
  - “A policy reserve is required to assure that premiums are not earned prematurely. The amount of the reserve should be adequate to pay for all future claims arising from these coverage features, after recognition of future premiums to be paid by current insureds for these benefits.”
- Which claims is this?
  - Claims on any DDR ERE yet-to-be issued for an in-force insured?
  - Does this include claims from future occurrences?
  - Traditional methodology assumes that, yes, it does.

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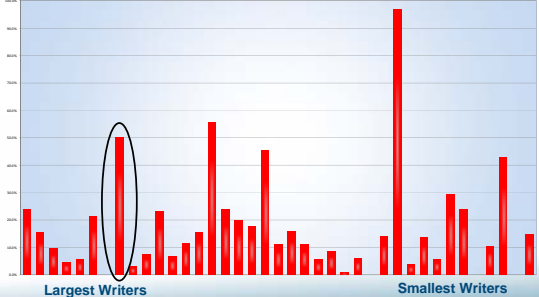
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### DDR Reserve Relative to Loss Reserve As of December 31, 2009



Source: Milliman analysis of National Underwriter Insurance Data Services from Highline Data

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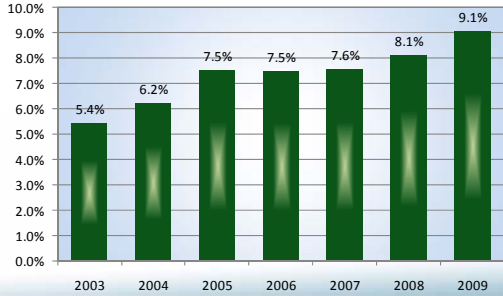
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### DDR Reserve Relative to Loss Reserve As of Year-End 2003 through 2009



Source: Milliman analysis of National Underwriter Insurance Data Services from Highline Data



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### DDR Reserve Relative to Loss Reserve

- DDR reserve is becoming more significant
- DDR reserve thought of as a long-term provision
  - Assumes long-term frequency
  - Loss reserve contemplates recent reduction in frequency
- Traditional DDR methodology more leveraged
  - Wide range of reasonable indications can be developed
  - Certain key assumptions (e.g., retirement rates) generally unknown



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### DDR Reserve – Is this even needed?

- Argument against
  - St. Paul case
- Arguments for
  - SSAP 65-8
    - "A policy reserve is required to assure that premiums are not earned prematurely"
  - Matching of premium and losses
  - Experience could become adverse as book ages



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**DDR Reserve – Two Methodologies**

- Life contingencies (“traditional”) approach
  - Run off in-force insured physicians
    - DDR rates
    - Policy renewal rates
  - Liability equals present value of
    - Losses on DDR EREs
    - Less DDR pricing provision in earned premium
- Proposed approach
  - Liability is unpaid loss on claims that
    - Have occurred
    - Are unreported
    - When reported, will be reported on DDR policies

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Traditional Methodology

**DDR POLICY PROVISION**

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**Example – Traditional Approach**

- 1,000 In-force Insureds
  - 600 experience a DDR event
  - 400 non-renew, no DDR event
- Cost of DDR EREs
  - Average P.V. of DDR ERE is \$1,000
  - P.V. cost is  $600 \times \$1,000 = \$600,000$
- Offsetting premium
  - Renew on average 10 times
  - P.V. premium is \$800
  - DDR pricing provision is 3% of premium
  - P.V. DDR premium is  $1,000 \times 10 \times \$800 \times 3\% = \$240,000$
- Reserve =  $\$600,000 - \$240,000 = \$360,000$

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### Traditional Approach – Number to DDR

Age	Selected Retention Factors	In-Force Exposures	Number of Equivalent Physicians Remaining as of December 31, xxxx							
			2010	2011	2012	2013	2014	2015	2016	
30	86.0%	3.7	3.2	2.7	2.4	2.0	1.7	1.6	1.4	
31	86.0%	8.0	6.9	5.9	5.1	4.4	4.0	3.6	3.2	
32	86.0%	12.7	10.9	9.4	8.0	7.2	6.5	5.9	5.3	
33	86.0%	15.9	13.6	11.7	10.6	9.5	8.6	7.7	6.9	
34	86.0%	30.9	26.6	23.9	21.6	19.4	17.5	15.7	14.5	
35	90.0%	32.4	29.1	26.2	23.6	21.2	19.1	17.6	16.2	

- Continues to 2060
- And through age 80+

Age	Percent of In-Force			Number of Equivalent Physicians to DDR During Period							
	Death	Disability	Retirement	1/10 - 12/10	1/11 - 12/11	1/12 - 12/12	1/13 - 12/13	1/14 - 12/14	1/15 - 12/15		
30	0.130%	0.130%	0.000%	0.010	0.009	0.008	0.007	0.006	0.006		
31	0.130%	0.140%	0.000%	0.022	0.019	0.017	0.015	0.015	0.014		
32	0.130%	0.150%	0.000%	0.035	0.032	0.028	0.028	0.026	0.024		
33	0.130%	0.160%	0.000%	0.046	0.041	0.041	0.038	0.035	0.032		
34	0.130%	0.170%	0.000%	0.093	0.093	0.086	0.080	0.074	0.070		
35	0.169%	0.180%	0.000%	0.113	0.105	0.097	0.090	0.085	0.096		

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### Traditional Approach – Cost of DDR EREs

Calendar Period	(1)	(2)	(3)
	Projected Number to DDR	Projected Pure Premium	Loss & LAE Incurred
1/10 - 12/10	102.7	\$ 11,171	\$ 1,147,766
1/11 - 12/11	88.6	11,730	1,039,567
1/12 - 12/12	85.3	12,316	1,050,612
1/13 - 12/13	86.3	12,932	1,115,615
1/14 - 12/14	81.9	13,578	1,112,278

- Projection continues through 2060
- Payments projected by calendar year
- Discounted to evaluation date for time value of money

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### Traditional Approach – DDR Premium

Calendar Period	(1)	(2)	(3)	(4)
	Average Policy Premium	Projected Renewing Exposures	DDR Pricing Provision	Undiscounted DDR Premium
1/10 - 12/10	9,302	2,379.9	3.0%	664,128
1/11 - 12/11	9,767	2,158.5	3.0%	632,464
1/12 - 12/12	10,255	1,965.9	3.0%	604,842
1/13 - 12/13	10,768	1,789.6	3.0%	578,124
1/14 - 12/14	11,307	1,630.7	3.0%	553,121

- Projection continues through 2060
- Discounted to evaluation date for time value of money

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### Traditional Approach – Indicated DDR Reserve

	(1)	(2)	(3) = (1) - (2)
	Present Value of Benefits	Present Value of Future DDR Premiums	Indicated Reserve
Undiscounted	\$33,074,314	\$10,488,515	\$22,585,799
3.0%	18,471,516	7,692,363	10,779,153
4.0%	15,568,357	7,039,737	8,528,620
5.0%	13,253,623	6,482,270	6,771,353
6.0%	11,386,908	6,002,160	5,384,748

- Note variation due to discount rate
- Similar variation can be achieved by small changes in other assumptions

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Proposed Methodology

### DDR POLICY PROVISION

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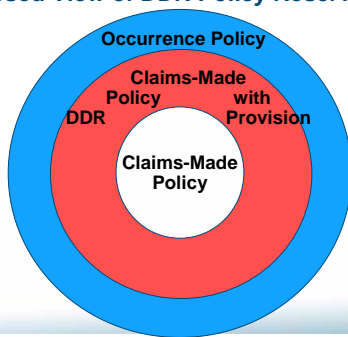
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### Proposed View of DDR Policy Reserve



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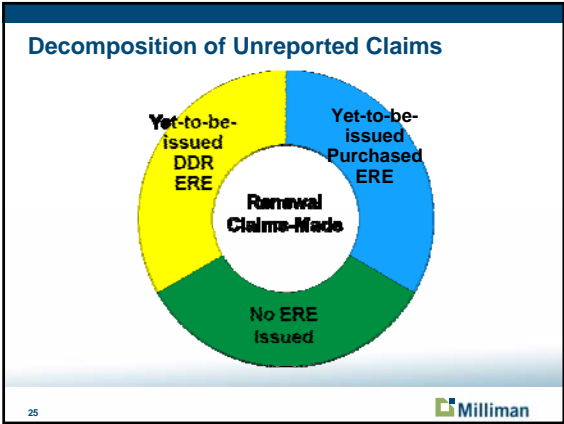
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### Example – Proposed Approach

Accident Year	(1) Exposures	(2) Occurrence Policy Pure Premium	(3) A Priori Ultimate <small>= (1) x (2)</small>	(4) Claims Unreported	(5) Indicated Unpaid on IBNR Claims <small>= (3) x (4)</small>	(6) Portion to be Reported on DDR EREs	(7) Indicated DDR Reserve <small>= (5) x (6)</small>
2008	75	\$ 7,256	\$ 544,219	15%	\$ 81,633	5.5%	\$ 4,490
2009	85	\$ 7,619	\$ 647,619	40%	\$ 259,048	6.1%	\$ 15,802
2010	95	\$ 8,000	\$ 760,000	70%	\$ 532,000	7.5%	\$ 39,900
Total Prior to Adjustment							\$ 60,192
Adjustment for Reduction in Practice Hours Due to Retirement							80%
Adjusted Indicated DDR Reserve							\$ 48,153

▪ Would normally include 10 -12 accident years

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- ### Reserving Methodologies: Key Source of Difference
- Should the DDR reserve include a provision for claims not yet occurred?
  - Consider "Enhanced Claims-Made" policy
    - Provides claims-made plus pre-funded ERE coverage
    - No DDR restriction on ERE issuance
  - Should this be reserved as an occurrence policy?
    - Traditional methodology: No
    - Proposed methodology: Yes
    - Accounting for at least one large insurer: Yes
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**DDR Reserve: Where Do We Go From Here?**

- Step 1: Define the liability
- Step 2: Liability determines methodology
- Appropriate to consider merits of methodology in Step 1
  
- SSAP language may need to be reconsidered in this process
  - General characterization of liability
  - Would not dictate methodology
  - Consistent with other SSAP reserve language

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**OTHER CONSIDERATIONS**

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**Other Considerations**

- Accompanying Oral Discussion
  - This document is not complete without the accompanying oral discussion and explanation of the underlying information and concepts as well as any interpretational limitations.
- Limited Distribution
  - This document should not be distributed, disclosed or otherwise furnished, in whole or in part, without the express written consent of Milliman.
- Data Reliance
  - We have relied upon data from National Underwriter Insurance Data Services from Highline Data, without audit or independent verification. We have performed a limited review of the data for reasonableness and consistency and have not found material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or relationships that are materially inconsistent. Such a review was beyond the scope of our analysis.

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