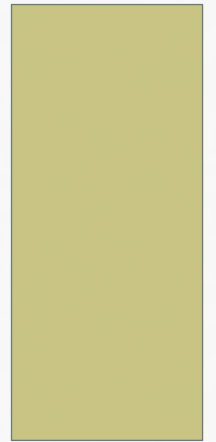


FORENSIC ACTUARIAL PRACTICE

BY ANTHONY H. RICCARDI
FORENSIC ACTUARY AND
ECONOMIST



DEFINITION AND REGULATION OF A FORENSIC ACTUARY

- Black's Legal Dictionary...Forensic Evidence (sic.) - evidence that is arrived at by either scientific or technical means.... as for provision of court testimony.

DEFINITION AND REGULATION OF A FORENSIC ACTUARY (CONTINUED)

- Solicited as a consultant and only by an officer of the court (lawyer, judge, etc.) to give an opinion, usually regarding a measure of economic damages, for either the plaintiff or defendant in the case. Regulation and oversight comes under AAA's Actuarial Standards of Practice , ASOP 17 (Expert Testimony by Actuaries), ASOP 41 (Actuarial Communications), ASOP 23 (Data Quality), and ASOP 56 (Modeling).

NATURE OF THE CASES

Typical tort cases for the actuary's opinion include:

- Personal injury – tort calculations for mostly auto crash accident damages for individuals, though includes construction workers and general accident case damages too

NATURE OF THE CASES (CONTINUED)

- Medical Malpractice – economic loss calculations (incl. encumbrances) that are consequential to a court's findings regarding faulty medical care.
- Wrongful death – this category of tort calculations applies to and extends each item above, though the actual calculations are somewhat different.

NATURE OF THE CASES (CONTINUED)

- Stand-alone Pension Valuation – a present value analysis... largely in divorce actions

WHAT GOES INTO THE ACTUARY'S OPINION

- Standardly, losses of wages, fringes, household services and medical expense calculations are presented and are based upon the following:
- Data pulled from case filings, including depositions, tax returns, W-2's, bill of particulars , claim statements, employment records and life care plans

WHAT GOES INTO THE ACTUARY'S OPINION (CONTINUED)

- Relevant research data, including published data from authoritative sources, typically Union contracts and government surveys, e.g. U. S. Life Table, United States Department of Commerce data
- Assumptions....?

HOW IS THE ACTUARY'S OPINION EXPRESSED

- An actuary's opinion on damages is typically expressed in a report that is formatted to comply with a state's statute, regarding a "Sum and Substance of Opinion", as it may be presented in court. For example, in New York, a measure of present value of loss isn't considered until after there's any award and medical malpractice testimony is highly unique.

HOW IS THE ACTUARY'S OPINION EXPRESSED (CONTINUED)

A report is standardly provided to either the plaintiff or defense lawyer and labeled as the actuary's court testimonythough lately testimony has become very infrequent.

HOW IS THE ACTUARY'S OPINION EXPRESSED (CONTINUED)

The following slides illustrate an example of the unique medical malpractice case damages calculated for a severely injured plaintiff, to include the court's verdict award and the post-trial annuity that is required in New York.

Case history – Bifurcated with defendant assuming liability for damages of a 40 year old woman, severely injured, earning wage and fringe benefits valued at \$75,000 annually, growing at 2% per annum.

MEDICAL MALPRACTICE DAMAGES

Actuary's Damages Testimony

Element Of Damages	Verdict Amount	Period (Years)	Growth
Lost Wages and Fringes	\$75,000/Year	27	2%
Medical Expenses	\$50,000/Year	20	3%

MEDICAL MALPRACTICE DAMAGES

Verdict Award Damages

Element Of Damages	Verdict Amount	Period (Years)	Growth
Lost Wages and Fringes	\$75,000/Year	27	2%
Medical Expenses	\$50,000/Year	20	3%
Pain & Suffering	\$500,000	Immediate	

MEDICAL MALPRACTICE DAMAGES

Award Damages Calculation #1

Element Of Damages	Undistributed	Discounted Present Values (i=4.2%)		
	Annual Payment	Periodic Payments (65%)	Lump Sum Payments (35%)	Total
Lost Wages and Fringes	\$75,000	\$968,949	\$521,742	\$1,490,690
Medical Expenses	\$50,000	\$620,981	\$334,374	\$955,355
Pain & Suffering	\$0	\$0	\$500,000	\$500,000
		\$1,589,930	\$1,356,116	\$2,946,046

MEDICAL MALPRACTICE DAMAGES

Award Damages Calculation #2

Attorney Fee Computation	
Present Value = \$2,946,046	
30% of the first \$250,000 of the sum recovered;	\$75,000
25% of the first \$250,000 of the sum recovered;	\$62,500
20% of the first \$500,000 of the sum recovered;	\$100,000
15% of the first \$250,000 of the sum recovered;	\$37,500
10% percent of any amount over \$1,250,000 of the sum recovered	\$169,650
Total	\$444,605

$$\% \text{ Attorney's Fee} = \$444,605 / \$2,946,046 = 15.09\%$$

MEDICAL MALPRACTICE DAMAGES

Award Damages Calculation #3

Item	Distribution Type	Distribution Amount		Distributee
A	Lump Sum Payment	\$1,151,457	Paid at once	Plaintiff
B	Lump Sum Payment	\$444,605	Paid at once	Attorney @ Fee
C.1	Annuity Contract Payments	\$3,449.40	AC Mode @ 324 Months	Plaintiff
C.2	Annuity Contract Payments	\$2,299.60	TLA Mode @ 240 Months	Plaintiff

Annuity Contract Payment Modes

AC (C.1) – A continuous series of monthly payments, increased at 2% on each annuity contract anniversary date for an annuity certain period.

TLA (C.2) – A continuous series of monthly payments, increased at 3% on each annuity contract anniversary date for a temporary life annuity period.

MEDICAL MALPRACTICE DAMAGES

Award Damages Calculation #4

Item	Distribution Type	Cost	Cost	Distributee
A	Lump Sum Payment	\$1,151,457	Paid at once	Plaintiff
B	Lump Sum Payment	\$444,605	Paid at once	Attorney @ Fee
C.1	Standard Contract Payments	\$783,521	AC Mode @ 324 Months	Plaintiff
C.2	Substandard Contract Payments	\$401,741	TLA Mode @ 240 Months	Plaintiff
	Total:	\$2,781,324		

POST-TRIAL

Annuity Liquidity Dilemma:

- Question:
 - How can the forensic actuary assist during a factoring negotiation, in order to bring about a degree of fairness and equity in the determination of a lump sum distribution?

POST-TRIAL

Liquidity Dilemma Calculations

SOA Reference: “2005-2017 Structured Settlement Mortality Experience Report”

Data: Tabulation of Life-Company aggregate ratios of actual to expected mortality for only substandard (Mortality-Rated) contracts, by gender, age at issue, dollar amounts and contract size: 83.5%, 63.1%, 83.8%, 97.8%, and 127.8%

Findings: Median A/E = 83.8%

Calculated factor is $1/83.8\% = 1.2$

Plaintiff's negotiating position is that she is entitled to as much as 1.2 times premium cost.

QUESTIONS?