



### Build and Standardize Your Actuarial Toolset

IHA Consultants Inc. has developed the first stochastic trend model for analysis of claim cost trend analysis (pmpm), claim severity trend analysis and claim utilization trend analysis.

The PROSTM™ is capable of performing retrospective analysis as well as forecasting future trend probability distributions up to 24 months for premium development, forecasting or financial valuation purposes.

Probability distributions provide a common decision framework for pricing, financial reporting, forecasting and medical trend. Benefits include: trend confidence intervals and volatility, seamless integration of trend into pricing, underwriting, forecasting and financial reporting. Automate variance analysis of forecast trend, pricing trend and financial reporting trend. "Close the loop" by continuously incorporating the latest trend driver variances into pricing, underwriting and financial reporting.

Reduce risk to sales/marketing decision process by gaining management agreement across sales, pricing, actuarial/underwriting as to prospective profit levels with associated probabilities. Apply portfolio profitability risk analysis at the firm, lines of business, group, individual group, ASD and individual lines levels

Be informed and not caught offguard by unexpected trend increases that were not detected sooner or worse: not detected in time.

Take the IHA Consultant's trend software challenge....

Can you connect anywhere, anyplace, anytime using the Web?

Can you use your PDA, mobile device, laptop or workstation?

Can complete 10 trend forecasts every 10 minutes? How about 20 forecasts in 10 minutes?

Can you predict 12 periods? How about 24 periods?

How about short-term and long-term trend ranges with probabilities?

Any sensitivity analysis capability?

Trend driver decomposition into long-term driver vs short-term shock available?

Limiting distribution sequence reporting capability?

How about risk index capability?

Any enterprise risk management rule capability?

Integration with reserve and pricing?

# Stochastic Trend Model (PROSTM™)

IHA Consultants Inc.

Projected Month 1 Trend	Projected Month 2 Trend	Projected Month 3 Trend	Projected Month 4 Trend	Projected Month 5 Trend	Projected Month 6 Trend	Projected Month 7 Trend	Projected Month 8 Trend	Projected Month 9 Trend	Projected Month 10 Trend	Projected Month 11 Trend	Projected Month 12 Trend	Projected Annual Trend	Percentile
1.259%	1.141%	1.125%	1.120%	1.175%	1.112%	1.082%	1.095%	1.107%	1.077%	1.139%	1.103%	14.41%	60th Percentile
1.192%	1.089%	1.057%	1.047%	1.116%	1.033%	1.009%	1.028%	1.028%	1.007%	1.072%	1.040%	13.46%	59th Percentile
1.112%	0.937%	0.887%	0.983%	1.057%	0.972%	0.953%	0.964%	0.967%	0.964%	1.006%	0.976%	12.59%	58th Percentile
1.038%	0.836%	0.818%	0.913%	0.988%	0.848%	0.826%	0.834%	0.914%	0.850%	0.932%	0.913%	11.74%	57th Percentile
0.868%	0.875%	0.843%	0.840%	0.919%	0.773%	0.762%	0.776%	0.781%	0.850%	0.868%	0.856%	10.86%	56th Percentile
0.892%	0.822%	0.788%	0.776%	0.861%	0.712%	0.695%	0.715%	0.718%	0.715%	0.747%	0.795%	10.02%	55th Percentile
0.829%	0.787%	0.724%	0.706%	0.802%	0.651%	0.621%	0.645%	0.718%	0.662%	0.629%	0.631%	9.25%	54th Percentile
0.789%	0.701%	0.656%	0.641%	0.737%	0.592%	0.568%	0.563%	0.718%	0.601%	0.560%	0.579%	8.41%	53th Percentile
0.700%	0.638%	0.601%	0.582%	0.676%	0.541%	0.498%	0.495%	0.464%	0.545%	0.497%	0.520%	7.62%	52th Percentile
0.642%	0.571%	0.541%	0.523%	0.609%	0.486%	0.440%	0.429%	0.485%	0.421%	0.439%	0.455%	6.84%	51th Percentile
0.580%	0.515%	0.490%	0.454%	0.536%	0.425%	0.386%	0.370%	0.399%	0.421%	0.439%	0.455%	6.06%	50th Percentile
0.499%	0.483%	0.434%	0.394%	0.473%	0.365%	0.332%	0.309%	0.335%	0.362%	0.373%	0.390%	5.28%	49th Percentile
0.424%	0.393%	0.375%	0.330%	0.405%	0.365%	0.332%	0.309%	0.335%	0.362%	0.373%	0.390%	4.48%	48th Percentile

Imagine.....

Evaluating your book of business from a mean-variance portfolio viewpoint.

Answers at your fingertips for analysts, regulators, rating agencies, etc.

Enterprise Risk Management (ERM) strategy via incorporating risk tolerance business rules into the portfolio for pricing, underwriting, forecasting and financial reporting purposes.

Cast growth in membership vs profitability decisions in terms of profit probability distributions for individual groups and impact to overall corporate profit probability distributions. Rather than basing a decision solely on projected group profitability, incorporate business rules for risk tolerance.

Align department level objectives with corporate level objectives strengthening communication and relationships between sales/marketing, actuarial/pricing, underwriting and financial reporting.

For further information about how PROSTM™ can improve and standardize your actuarial toolset, please contact:

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## Unique Features - PROSTM™

Incorporate risk tolerance into trend assumption using business rules based on percentiles of the trend distribution.

Projected quarterly/monthly trend probability distributions for payments, utilization, average claim or incurred claims.

Long-run trend distribution as well as short-run trend distribution.

Quantifies implicit or explicit margin in terms of probability.

24 month projections are updated with each financial close enabling quickest possible error detection and correction.

Link trend distribution to underwriting risk index.

Strategically price group renewals using short-run and long-run trend probability distributions and knowledge if trend change is due to temporary shock or due to permanent increase to trend.

Group specific or key account reporting is significantly enhanced with updated probability projections of annual expense, cost and utilization.