

Injury Schemes Seminar

Balancing Outcomes

10-12 November 2013
Sheraton Mirage Gold Coast



Thoughts on Evaluation of Injury Prevention Efforts

Felix Tang

© copyright Felix Tang

*This presentation has been prepared for the Actuarial Institute 2013 Injury Schemes Seminar.
The Institute Council wishes it to be understood that opinions put forward herein are not necessarily those of the Institute
and the Council is not responsible for those opinions.*



Prevention and Compensation

- Resources are limited – injury management is a balance of outcomes
- Different focus of prevention and compensation
 - prevention focuses on process of avoiding occurrence and minimising its potential impact before the event occurs
 - compensation focuses on process of reducing damage and restoration to before the event as much as possible
- How do we assess a “fair” level of compensation?
- How do we assess a “fair” investment in prevention?



Why evaluate?

- It's the responsible thing to do
- To show something is working, and why
- To show something is NOT working (or making things worse!), and why
- To see the program is going down a wrong path and change course
- Identify unexpected "side effects" – positive or negative
- Uncover new information / way of doing things
- Provide a more objective assessment than relying on "gut feel"



“Does it work...?”

- Will this work? Is this working? Has it worked?
 - reduce number of injuries?
 - reduce severity of injuries?
 - making best use of dedicated resources?
 - with observable effect within the timeframe?
 - with lasting effect?
 - adaptive to changes in business/people?
- These questions (or doubts) arise before, during and after the prevention efforts are implemented



Evaluation Design

- Evaluate early
- The need to collect data on “before implementation” to compare
- An embedded approach – evaluation as part of the program activities
- An ongoing process
- Requires both practical relevance and academic rigour
- Depends on goals – prevent occurrence, reduce severity, or provide a service e.g. education, awareness?
- All programs should be evaluated but not in same way or level of rigour



Stages of Evaluation

- Formative evaluation – testing the “concepts” of new program (or new changes) for feasibility, appropriateness, acceptability, applicability towards the target population
- Process evaluation – testing the prevention program’s reach and participation throughout the life of the program
- Impact evaluation – measure changes in knowledge, attitude, belief, behaviour associated with the prevention program (prior to, during and following)
- Outcome evaluation – how well are goals achieved in reducing mortality and morbidity

paraphrased from Thompson, N.J., and McClintock, H.O. Demonstrating your program’s worth: A primer on evaluation for programs to prevent unintentional injury.



Tools of Evaluation

- Qualitative methods
 - Interviews – broad open-ended questions to individuals
 - Focus groups – questions asked to a group of equals
 - Direct observation – to see “first hand” via physical visits
 - Pilot tests – useful for formative evaluation before full implementation
- Quantitative methods
 - Counting systems – tracking of statistics and metrics
 - Surveys – measure changes in knowledge, attitudes, behaviour
 - Experimental studies – under controlled settings
 - Inference – estimate impact to outcome by reference to changes in proxies such as knowledge and behaviour



Sources of Uncertainty in Evaluation

- “Rare” events and statistical significance
- Demographic changes pre and post implementation
- Data bias (e.g. surveys reflect views of the people willing to participate)
- Time constraints
- Practicality and approximations (e.g. use of shortened questionnaires)
- “Reminder” effects of evaluations
- Fear of negative findings will doom a program?



Concluding Thoughts

- There is indisputable value in preventing injuries before they occur over compensation after the event
- But the ends don't necessarily justify using any means – not all prevention strategies make the “best use” of the limited resources
- Evaluation is a vital “monitoring” step in the control cycle to identify good prevention practices and steer away from ineffective practices
- Evaluation of prevention efforts, programs & strategies is characterised by imperfect data, examining an evolving process, future uncertainty, and requires judgement – similar to typical actuarial problems

Injury Schemes Seminar

Balancing Outcomes

10-12 November 2013
Sheraton Mirage Gold Coast



Thoughts on Evaluation of Injury Prevention Efforts

Felix Tang

© copyright Felix Tang

*This presentation has been prepared for the Actuarial Institute 2013 Injury Schemes Seminar.
The Institute Council wishes it to be understood that opinions put forward herein are not necessarily those of the Institute
and the Council is not responsible for those opinions.*