

**‘Human Resource Management Strategies
Needed to Support
New Zealand Medical Specialists Undergoing a
Complaints/Disciplinary Process or
Coroner’s Inquest’**

By

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BA, BA (Hons) (Econ), BCom**

A Thesis submitted to Charles Sturt University in
fulfillment of the requirements for the degree of

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TABLE OF CONTENTS

CERTIFICATE OF AUTHORSHIP	vi
ACKNOWLEDGMENTS	vii
ETHICS APPROVAL	viii
ABSTRACT	x
LIST OF TABLES	xv
LIST OF FIGURES	xviii
CHAPTER ONE	1
1.1 Introduction to the Problem and its Setting	2
1.2 An Overview of the Healthcare Environment in NZ	2
1.2.1 District Health Boards	2
1.2.2 NZ Medical Practitioners	3
1.3 An Overview of the Medico-legal System in NZ	4
1.3.1 Health & Disability Commissioner Act 1994 & Amendment Act 2003: ..	4
1.3.2 The Health Practitioner's Competency Assurance Act 2004 (HPCAA) ..	5
1.3.3 Human Rights Review Tribunal	6
1.3.4 The Medical Council	6
1.3.5 Accident Compensation Corporation (ACC)	6
1.3.6 Coroner's Act 1988	7
1.4 Occupational Stress and Legislative Requirements in NZ	7
1.5 Current and Emerging Issues and Challenges	9
1.6 The Importance of This Study	11
1.6.1 Substantive Contribution	11
1.6.2 Theoretical Contribution	12
1.6.3 Methodological Contribution	12
1.7 General Statement of the Problem	12
1.8 Specific Statements of the Sub-Problems	13
1.8.1 Sub-problem One: The Impact of Medico-legal Processes on NZ Specialists	14
1.8.2 Sub-problem Two: Social Support and Medico-legal Stress	15
1.8.3 Sub-problem Three: Human Resource Management Strategies to Manage Medico-legal Stress	16
1.9 The Limitations	16
1.10 Definition of Terms	17
1.11 Abbreviations	19
1.12 Assumptions	20
1.12.1 Assumption One:	20
1.12.2 Assumption Two:	20
1.13 Thesis Outline	20
CHAPTER TWO	21
2.1 Section One: Medico-legal Processes & the Impact on Medical Practitioners	23
2.1.1 The Transactional Theory of Stress	23
2.1.2 Incidence of Complaints	24
2.1.3 Personal and Professional Impact of Medico-legal Processes	25
<i>Gender and Medico-legal Stress</i>	31
<i>Medico-legal Impact on Families & Relationships</i>	32
2.1.4 Cognitive Appraisal	33
2.1.5 Medico-legal Outcome	34

2.1.6	Time taken to resolve the medico-legal process.....	34
2.1.7	Patient Death & Public Inquiries.....	35
2.1.8	Communication with Management regarding medico-legal impact	36
2.1.9	Research Hypotheses for Medico-legal Stress	37
2.2	Section Two – Literature Review of Social Support & Medico-legal Stress.....	39
2.2.1	Social Support Definitions and Theory	39
2.2.2	Optimal Matching Theory of Social Support	42
2.2.3	Social Support and Medico-legal Processes	43
2.2.4	Gender and Social Support	46
2.2.5	Collegial Support.....	48
2.2.6	Hospital Management Support	49
2.2.7	Legal Support	50
2.2.8	Research Hypotheses for Social Support	51
2.3	Section Three: Human Resource Strategies to Manage Medico- legal Stress	52
2.3.1	Introduction	52
2.3.2	Occupational Stress Management	53
2.3.3	Medico-legal Stress Management	56
2.3.4	Current Interventions/ Systems for New Zealand Doctors	62
2.3.5	Hypothesis for HRM Strategies to Manage Medico-legal Stress	63
2.3.6	Research Conceptual Framework	64
2.3.7	Chapter Summary	64
CHAPTER THREE		67
RESEARCH DESIGN AND DATA COLLECTION		67
3.1	Introduction	69
3.2	Research Conceptual Framework	69
3.3	Research Variables.....	71
3.4	Population and Data Set.....	72
3.5	Choice of Instruments.....	72
3.5.1	Measure of Distress	72
3.5.2	Measure of Social Support.....	74
3.6	Data Collection Strategy.....	76
3.6.1	The Process - Stage One.....	76
3.6.2	Questionnaire.....	79
3.6.2.1	<i>Section 1: Experience of Medico-legal Processes</i>	80
3.6.2.2	<i>Section 2: Demographics</i>	80
3.6.2.3	<i>Section 3: Most Trying/Difficult Medico-legal Situation</i>	81
3.6.2.4	<i>Section 4: Measurement of Emotional and Instrumental Support during the Most Trying/Difficult Medico-legal Situation</i>	81
3.6.2.5	<i>Section 5: Impact of Event Scale (IES)</i>	83
3.6.2.6	<i>Section 6: Suggestions for Support</i>	83
3.6.3	The Process - Stage Two	84
3.6.4	Participating NZ Specialist Colleges/ Association.....	84
3.7	Data Analysis Techniques	85
3.7.1	Response Rate	85
3.7.2	Data Coding and Analysis	86
3.7.3	Impact of Event Scale Measurement & Analysis	87
3.7.4	Importance-Performance Analysis (IPA)	88
3.8	Descriptive Statistics	89
3.8.1	Demographic Profile	89
3.8.2	The Most Trying / Difficult Medico-legal Process.....	90

3.8.3	Descriptive Statistics for Impact of Event Scale (IES).....	91
3.9	Chapter Summary.....	93
CHAPTER FOUR.....		95
RESEARCH RESULTS		95
4.1	Section One: The Impact of Medico-legal Processes on NZ Specialists (Sub-problem One)	97
	Sub-problem One: Part A – Perceived Level of Stress:	97
4.1.1	Hypothesis 1.....	97
4.1.2	Hypothesis 2.....	99
4.1.3	Hypothesis 3.....	101
4.1.4	Hypothesis 4.....	104
4.1.5	Hypothesis 5.....	106
4.1.6	Hypothesis 6.....	110
4.1.7	Hypothesis 7.....	112
4.1.8	Hypothesis 8.....	115
4.1.9	Hypothesis 9.....	119
4.1.10	Hypothesis 10.....	120
4.1.11	Sub-problem One: Part B - Impact on Spousal/Partner Relationship	121
4.2	Section Two: Social Support and Medico-legal Stress (Sub-problem Two)	123
4.2.2	Hypothesis 11.....	128
4.2.3	Hypothesis 12.....	132
4.2.4	Hypothesis 13.....	135
4.2.5	Hypothesis 14.....	140
4.2.5.1	<i>Emotional Support Gap Analysis</i>	141
4.2.5.2	<i>Instrumental Support Gap Analysis</i>	147
4.2.6	Analysis of Importance / Satisfaction of Social Support by Gender. ..	150
4.2.7	Importance-Performance Analysis (IPA) of Emotional and.....	154
4.3	Section Three: Human Resource Strategies Needed to Support Specialists going through a Medico-legal Process (Sub-problem Three).....	168
4.3.1	Descriptive Statistics for Support Strategies	168
4.3.2	Tertiary Interventions.....	170
4.2.3	Secondary Interventions	171
4.3.4	Primary Interventions.....	173
4.4	Chapter Summary.....	175
CHAPTER FIVE.....		179
DISCUSSION, RECOMMENDATIONS AND CONCLUSION OF RESEARCH PROGRAMME.....		179
5.1	Statement of the Problem	181
5.2	Discussion of the Results and Recommendations for HRM of NZ Medical Specialists Undergoing a Medico-legal Process	181
5.2.1	Overview of Medico-legal Stress Experienced by NZ Specialists	181
5.2.2	Impact of Medico-legal Stress on Specialist Well-being, Relationships and Work	184
5.2.3	Cognitive Appraisal of a Medico-legal Process	187
5.2.4	Coping with a Medico-legal Process	188
5.2.5	Summary of Medico-legal Stress and Impacts Experienced by NZ Specialists	190
5.3	Overview of Social Support Experienced by NZ Specialists Undergoing a Medico-legal Process	191

5.3.1	Family Support	191
5.3.2	Collegial Support	192
5.3.3	Organisational Support	193
5.3.4	Other Support	195
5.3.5	Summary of Social Support Experienced by NZ Specialists	197
5.4	Human Resource Management Strategies Needed to Support NZ Medical Specialists Undergoing a Medico-legal Process	197
5.4.1	Primary Interventions	197
5.4.1.2	<i>National Strategies</i>	197
5.4.1.2	<i>Organisational Strategies</i>	198
5.4.1.3	<i>Individual Strategies</i>	200
5.4.2	Secondary Interventions	202
5.4.2.1	<i>National Strategies</i>	202
5.4.2.2	<i>Organization Strategies</i>	203
5.4.2.3	<i>Individual Strategies</i>	204
5.4.3	Tertiary Interventions	205
5.4.3.1	<i>National Strategies</i>	205
5.4.3.2	<i>Organisation Strategies</i>	205
5.4.3.3	<i>Individual Strategies</i>	206
5.4.4	Summary of HRM Interventions	207
5.5	Theoretical and Methodological Implications for Medico-legal Stress	209
5.6	Limitations of this Research	212
5.7	Recommendations for Further Research	213
5.8	Conclusion	214
	BIBLIOGRAPHY	217
	APPENDIX 1 – Research Questionnaire	238

CERTIFICATE OF AUTHORSHIP

I MELANIE ANN MOORCROFT

Hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgement is made in the thesis. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

I agree that the thesis be accessible for the purpose of study and research in accordance with the normal condition established by the University Librarian for the care, loan and reproduction of the thesis.

Signature:

Date:

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I appreciate the support of the Council of Medical Colleges and the seven participating specialist Colleges / Associations. Thank you to all the New Zealand medical specialists who took the time to participate in this research and share their medico-legal experiences. I sincerely hope that the outcome of this study is an improved support system for you all.

Finally, thank you to my children Oliver and Tessa who motivated me to keep going.

ETHICS APPROVAL



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10 May 2005

Ms Melaine Moorcroft
61 Forrester Drive
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Dear Ms Moorcroft,

The Ethics in Human Research Committee has approved your proposal "*Human Resource Management Strategies needed to Support New Zealand Medical Specialists undergoing a Complaints/ Disciplinary Process or Coroner's Inquest*" for a twelve month period from 10/05/2005.

The protocol number issued with respect to this project is **2005/102**. Please be sure to quote this number when responding to any request made by the Committee.

Please note that the Committee requires that all consent forms and information sheets are to be printed on Charles Sturt University letterhead. Students should liaise with their Supervisor to arrange to have these documents printed.

You must notify the Committee immediately should your research differ in any way from that proposed.

You are also required to complete a Progress Report form, which can be downloaded from www.csu.edu.au/research/forms/ehrc_annrep.doc, and return it on completion of your research project or by 10/05/2006 if your research has not been completed by that date.

The Committee wishes you well in your research and please do not hesitate to contact the Executive Officer on telephone (02) 6338 4628 or email ethics@csu.edu.au if you have any enquiries.

Yours sincerely


Julie Hicks
Executive Officer
Ethics in Human Research Committee

Cc: Prof Alan Fish Dr Pamela Mathews

17 November 2005

Melanie Moorcroft
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Dear Melanie

**HUMAN RESOURCES MANAGEMENT STRATEGIES NEEDED TO SUPPORT NEW ZEALAND
MEDICAL SPECIALIST UNDERGOING A COMPLAINTS/DISCIPLINARY PROCESS OR CORONER'S
INQUEST**

Melanie Moorcroft
MEC/05/08/098

Thank you for the revised application which was considered by the Committee at its meeting on 1 November 2005 and approved. The Committee made the following comments which do not affect ethical approval.

•	Re-read the questionnaire to check for typos
•	The Committee noted the response rate could be as low as 2 – 3% which will affect generability.

Approved Documents

Letter to specialists
Thesis questionnaire vs 9.doc

Accreditation

The Committee involved in the approval of this study is accredited by the Health Research Council and is constituted and operates in accordance with the Operational Standard for Ethics Committees, March 2002.

Final Report

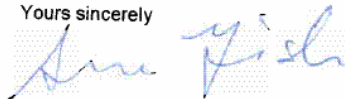
The study is approved until 31 October 2006. A final report is required at the end of the study and a report form to assist with this is available on <http://www.newhealth.govt.nz/ethicscommittees>. If the study will not be completed as advised, please forward a progress report and an application for extension of ethical approval one month before the above date.

Amendments

It is also a condition of approval that the Committee is advised of any adverse events, if the study does not commence, or the study is altered in any way, including all documentation.

It should be noted that Ethics Committee approval does not imply any resource commitment or administrative facilitation by any healthcare provider within whose facility the research is to be carried out. Where applicable, authority for this must be obtained separately from the appropriate manager within the organisation. **Please quote the above ethics committee reference number in all correspondence.**

Yours sincerely



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ABSTRACT

The medico-legal process is a significant life event for medical practitioners that may cause psychological distress and physical morbidity. The medico-legal process, as experienced by New Zealand medical specialists, initiates stress levels that can be measured by the Impact of Event Scale (IES). For the purpose of this research a medico-legal process is limited to the Coroner's Court, Health and Disability Commissioner (HDC), the Medical Council of New Zealand and any Accident Compensation Corporation (ACC) complaints.

This research applies the transactional stress-strain-coping framework of Lazarus and Folkman (1984) and the optimum matching theory (Cutrona, 1990) to a national professional group. The *stressor* relates to a situation-specific (work-based) acute event entailing a **most trying/difficult medico-legal** situation. The moderators or *coping* resources of the stress-strain are cognitive appraisal (including primary and secondary appraisal of threat and control); social support; and coping strategy (problem-solving or emotion-based) in relation to the level of *distress*, as measured by the IES.

A self-administered questionnaire was sent to 1107 medical specialists who were members of seven participating specialist Colleges / Associations. The population sampled represented 39% of the registered medical specialists in New Zealand. The response was 118 reflecting a response rate of approximately 10%. Of the 118 returns, 56 (47.5 %) specialists had been involved in a medico-legal process in the last 10 years. This group provided data on the stresses and social support experienced by the specialist as a consequence of the medico-legal process.

Firstly, the study explored the perceived medico-legal stress of New Zealand specialists and how this was affected by the variables of gender, outcome, time to resolution, death of the patient, and cognitive appraisal. Secondly, the impact of the medico-legal process on the specialist's emotional and physical well-being was investigated, including partner relationships. Thirdly, the research looked into the types and sources of social support that were important to a specialist going through a medico-legal process and how satisfied they were with the support received. Fourthly, the study identified human resource management interventions that may be useful to support specialists.

The study incorporated the Impact of Event scale (IES), which has been shown to be a valid and reliable instrument. The IES measures the two most common responses to stress which are: *avoidance*, defined as 'consciously recognised avoidance

of certain ideas, feelings, or situations’; and *intrusion*, whereby ‘ideas, images, feelings, or bad dreams are experienced’. The IES was used to assess the medico-legal distress level of the participating specialists, including the generation of ‘Avoidance’, ‘Intrusion’ subscales and Overall IES scores.

This study showed that the reported levels of stress of 55.4% of specialists was in the ‘moderate to severe’ range, and 30.4% were in the ‘mild to moderate’ range. Mean Overall IES scores were 28.8 (SD = 16.51). Thus specialists undergoing a medico-legal process were in the same range as two symptoms of post-traumatic stress disorder.

Forty six (86.8%) specialists reported a favourable outcome to the medico-legal process. Seven (13.2%) reported an unfavourable outcome. Those specialists with an unfavourable outcome had Overall IES scores that were slightly higher than those with a favourable outcome. However, there was no evidence of a relationship between perceived level of stress and outcome of the medico-legal process. Thus the medico-legal process is a stressful experience for medical specialists regardless of the final outcome.

The time taken to resolve the medico-legal situation was less than 24 months for 78.6% of specialists, and over 24 months for 17.9% of specialists. There was a positive relationship between the Avoidance IES score and resolution time, but not for the Overall IES score.

Only three (5.3%) specialists had a patient death and a Coroner’s Court or Disciplinary Hearing. This is a small number for analysis.

There were 35 (62.5%) men and 21 (37.5%) female specialists included in the study. No evidence of any link between medico-legal stress level, as judged by IES score and gender was observed.

Thirty one (55.4%) specialists indicated that the threat of a medico-legal process to their professional identity and reputation was extreme. The specialist appraisal of threat correlated with IES scores. Correlation was strong (p values less than .0005) between all three of the IES scores.

The strain of the medico-legal process on specialist well-being was significant. 12.7% agreed that the process had affected their physical health; while 23.6% perceived that the process had affected their emotional or mental health. Non-parametric correlation showed a correlation between IES distress levels and physical/psychological impacts (p values in the vicinity of .001).

There was a detrimental effect for 23.5% of specialists on spouse/ partnership relationships, but a constructive impact was noted in 23.2%. Changes to work practice were initiated by 26.8% specialists as a result of the medico-legal process.

The functional approach to support as defined by the *types* - emotional and instrumental (Thoits, 1995; House & Kahn, 1985) - were used to measure the importance and satisfaction of specialist social support from the 22 specific sources of support for NZ specialists. To assess whether or not the type and source of social support matched the *need* of the specialist, the Important-Performance Analysis (IPA) was used. This mapped the 22 support source attributes to a two-dimensional grid to generate four different suggestions to manage the situation being assessed.

Coping with the stress and strain of the medico-legal process necessitated emotional and instrumental support for the specialist. Overall, the 'spouse' and 'immediate colleagues' were the most important sources, although the 'Legal Counsel' and 'Specialist colleagues' were also highly ranked. Hospital management and human resources management were near the bottom of the rank for satisfaction in this context. The emotional support of 'immediate colleagues' was the only one out of the 22 source attributes where the satisfaction was less than the importance placed on this support source.

A gender difference was found regarding the importance of 'collegial support'. During a medico-legal process, no evidence was found to support the optimal matching theory of support.

Findings showed a positive relationship between the level of stress *and* the importance-satisfaction gap of five sources of *emotional* support and two sources of *instrumental* support. This would suggest that improvements in social support from these sources may reduce the level of perceived stress.

This research would suggest that absenteeism is not an appropriate indicator of medico-legal stress for NZ medical specialists as only one specialist took stress leave and no specialists requested sick leave, yet the mean Overall IES score of 28.80 ($SD = 16.51$) is classified as 'moderate to severe distress'.

The specialists rated interventions - primary, secondary and tertiary - that would be useful as support during a medico-legal process. This provided the foundation for developing human resource management support strategies at three levels: national, organizational and individual.

The key 'primary' intervention at a national level is for medico-legal processes to be identified as a potential 'significant hazard', as defined by the HSE Act. The

Ministry of Health, specialist Colleges and DHBs should all be aware that medico-legal processes cause specialist workplace stress and this has the potential for flow-on effects in the healthcare sector.

A feasibility study should be undertaken regarding the creation and funding of a 'Medical Practitioners' Wellness Unit' that would nationally prioritize, coordinate and evaluate research and interventions to improve the health and well-being of medical practitioners. This could incorporate the existing Doctors' Health Advisory Service.

This research has shown the importance of collegial emotional and instrumental support and the importance-satisfaction gap. The Council of Medical Colleges should consider the development of a training information package, including suggestions for emotional and instrumental support, which could be used nationally to assist specialists to understand what their colleagues are going through during a medico-legal process.

A systematic training / education of clinical directors in DHBs should be considered to assist the social support of colleagues and junior staff during medico-legal processes.

The findings from this study appear to support overseas' research showing that female specialists place a different importance on sources of social support, therefore gender differences need to be taken into account in any strategy development.

This study suggests that some simple changes to work design would be beneficial for specialists undergoing a medico-legal process. This would mean ensuring that: outpatient clinics are not overloaded, operating lists are not extended, after hours call work is monitored and scheduling of junior and nursing staff is appropriate prior to Coroner Court Inquests and other disciplinary hearings. Additional time and resourcing may be required to write medico-legal reports.

This research shows that the specialist's perception of the level of 'threat' of the medico-legal process is correlated with their level of distress. Thus, cognitive therapy may be an appropriate intervention to change the meaning / threat of the medico-legal situation.

The Importance-Performance Analysis of the emotional and instrumental support from legal counsel fell into the quadrant 'keep up the good work'. Overseas' research has shown that doctors want more information and training regarding the legal process and realities of being in a 'hearing/court' situation (Bark et al., 1997). This research appears to support these findings, as 91.2% of the sample rated 'information/coaching from legal counsel to prepare for proceedings' as being 'useful; very useful; extremely useful'.

This research has shown that specialists do not easily take stress or sick leave for a medico-legal process, even though they may feel stressed. A strategy to remedy this problem would be for the union to negotiate with the DHBs a period of stress leave to be taken during a medico-legal process without the requirement of a ‘mental’ diagnosis from a medical practitioner.

Only 14.3% of specialists discussed the possible issue of stress with their employer. One of the reasons for not doing so was the ‘concern about confidentiality’. These findings highlight a real need to ensure that there is an option for specialists going through a medico-legal process to easily access a free, appropriate and confidential, external counselling service. This counselling service needs to advise on how the medico-legal process can impact specialists’ health and relationships, with strategies offered to minimize any harm.

As part of any national support and education strategy, specialists need to understand that counselling is an ‘acceptable’ form of social support for medico-legal stress. Counsellors, medical practitioners, and DHBs as employers should be aware of the possibility of PTSD symptoms that may arise from a medico-legal process.

The Council of Medical Colleges and the specialist Colleges should prepare an information and training package for spouses/partners, similar to that required for specialist colleagues, to assist in understanding reactions to medico-legal stress, with options for emotional and instrumental support.

This study has outlined human resource management strategies to support NZ medical specialists undergoing a medico-legal process. A revised framework is provided as a guide for future research on this topic.

The Council of Medical Colleges and Specialist Colleges should provide **leadership** in this important issue to implement some of the strategies outlined in this research. Identifying, assessing and managing specialist medico-legal stress should be undertaken in a framework that encompasses policies at a national level that will promote their implementation at the organisational and individual level (Dollard, 2001).

New Zealand has a no-fault, rehabilitation and compensation system for victims of medical misadventure since 1974. Tort liability for personal injury by accident was abolished in 1972. Thus, there is not a major immediate financial impact on New Zealand specialists as a result of a medico-legal process. However, this research has shown that there are other impacts and support issues for the NZ specialist workforce that have been poorly understood.

LIST OF TABLES

Table 2.1: Percentage of Women in NZ Surgical Specialities.....	47
Table 3.1: Participating Colleges / Associations.....	82
Table 3.2: Demographic Data of NZ Specialist Respondents who had been	88
Table 4.1: Means, Standard Deviations and IES Scores for NZ Medical Specialists....	94
Table 4.10: Spearman Correlations of IES Scores and Perceived Level of Threat	108
Table 4.11: Spearman Rank-Order Correlations of IES Scores and Perceived	111
Table 4.12: Mean and Standard Deviations for Specialist IES Scores	112
Table 4.13: Independent Samples Test for IES scores, Patient Death & Inquest, Physical & Emotional Conditions	113
Table 4.14: Specialist Discussion with Employer/Management Regarding Possible...	116
Table 4.15: Reasons given for Specialists Not Discussing Stress Issue with	117
Table 4.16: Requests for Sick / Stress Leave According to IES Category	118
Table 4.17: Impact of a Medico-legal Process on Specialists Spousal / Partner	118
Table 4.18: Support to Spouse/ Partner during a Medico-legal Process.....	119
Table 4.19: Mean Importance of Emotional Support in Decreasing Order of.....	120
Table 4.2: Categorisation of Specialists by Overall IES Scores	95
Table 4.20: Mean Satisfaction of Emotional Support in Decreasing Order of.....	121
Table 4.21: Mean Importance of Instrumental Support in Decreasing Order of	122
Table 4.22: Mean Satisfaction of Instrumental Support in Decreasing Order of.....	123
Table 4.23: Response Frequencies for the Possibility of Controlling the Outcome of.	124
Table 4.24: Spearman's Correlations between the Importance of Emotional	125
Table 4.25: Correlations between the Importance of Specialist Instrumental Support and their Perceived Possibility of Controlling the Medico-legal Outcome	128
Table 4.26: Averages of Average Scores for Different Types of Support.....	133
Table 4.27: Paired Sample Means for Average Importance / Satisfaction of Emotional & Instrumental Support Received from Colleagues & the Organisation	134

Table 4.28: Paired Samples Test for Average Importance / Satisfaction of Emotional & Instrumental Support Received From Colleagues & the Organisation	135
Table 4.29: Results of Spearman's rho Correlation between the Gap Analysis for Emotional Support and the Horowitz IES Scores	138
Table 4.3: Specialist IES Scores in Relation to Medico-legal Outcome	96
Table 4.30: Emotional Support of Spouse: Importance - Satisfaction.....	139
Table 4.31: Emotional Support of Other Specialist Colleagues:	140
Table 4.32: Emotional Support of Colleagues with Similar Experience:	141
Table 4.33: Emotional Support of Other Staff: Importance - Satisfaction	142
Table 4.34: Emotional Support of Union Rep: Importance - Satisfaction.....	143
Table 4.35: Results of Spearman's rho Correlation between the Gap Analysis for	145
Table 4.36: Instrumental Support of Other Specialist Colleagues:.....	145
Table 4.37: Instrumental Support: Specialist Association:	147
Table 4.38: Statistically Significant Relationships between Support Items	148
Table 4.39: Specialists' Perceptions of the Importance and Satisfaction of the Sources of Emotional Support & the Discrepancy Gaps (I-S).....	152
Table 4.4: Independent Samples Test Between the IES Score and Medico-legal Outcome	97
Table 4.40: The Mean of the Importance & Satisfaction of the 22 Sources of	154
Table 4.41: Specialists' Perceptions of the Importance and Satisfaction of the	157
Table 4.42: Importance & Satisfaction means for the Sources of Emotional Support	158
Table 4.43: Specialists' Perceptions of the Importance and Satisfaction of the	159
Table 4.44: Importance & Satisfaction means for the Sources of Instrumental	161
Table 4.45: Specialists' Perceptions of the Importance and Satisfaction of the Sources of Instrumental Support by Category	163
Table 4.46: Importance & Satisfaction means for the Sources of Instrumental Support	164
Table 4.47: Summary of Response Frequencies to Suggestions of Support for.....	167
Table 4.5 Specialist IES Scores by Gender.....	98

Table 4.6: Independent Samples Test between the IES Scores and Gender	99
Table 4.7: Female Demographics of Participating Specialist Groups	100
Table 4.8: Spearman Correlations between IES Scores and Time taken for	102
Table 4.9 Spearman's Rho Correlation between IES Scores with Physical &	105
Table 5.1: Summary of Recommended HRM Strategies to Support NZ Medical.....	207

LIST OF FIGURES

Figure		
3.1	Research Framework for Medico-legal Stress	70
3.2	Medico-legal Processes chosen as the Most Trying / Difficult by NZ Specialists	91
3.3	Frequency Distribution of Specialists Intrusive IES Scores (0-35)	92
3.4	Frequency Distribution of Specialist IES Avoidance Scores (0-40)	92
3.5	Frequency Distribution of Specialists Overall IES Score (0-75)	93
4.1	Distribution of Specialist IES Stress categories	98
4.2	Time Taken to Resolve the ‘Most Trying’ Medico-legal Situation	104
4.3	A jittered scatter plot of the relationship between the Avoidance IES scores and the time taken in years to resolve the M-L process	106
4.4	Medico-legal Experience Caused or Exacerbated a physical condition	107
4.5	Medico-legal Experience Caused or Exacerbated an Emotional or Psychological Condition	108
4.6	A jittered scatter plot illustrating the relationship between Overall IES scores and Physical Conditions	109
4.7	A jittered scatter plot illustrating the relationship between Overall IES scores and Emotional / Psychological Condition	109
4.8	Medico-legal Process as a Perceived Threat to Specialist Professional Identity & Reputation	110
4.9	A jittered scatter plot illustrating the relationship between Overall IES scores and Perceived Threat	112
4.10	Distribution of Specialist’s Perceived Control over the Most Trying Medico-legal Process	113
4.11	A Bar Chart showing Avoidance IES scores for Specialist Groups With and Without a Patient Death	117
4.12	Bar Chart showing Overall IES Scores for Specialist Groups With and Without a Patient Death	118

Figure		
4.13	A Bar Chart Showing Average Agreement that the M-L Experience Exacerbated a Physical Condition for Specialist Groups With and Without a Patient Death	118
4.14	Specialist Perceptions of Medico-legal Impact on Spouse / Partner Relationships	122
4.15	A jittered scatter plot illustrating the relationship between items 20g -Importance of Emotional support of private colleagues and item 19 – Perceived Controllability of medico-legal outcome	131
4.16	A jittered scatter plot illustrating the relationship between items 22g – Importance of Instrumental Support of colleagues in Private Practice and item 19 - Perceived Controllability of medico-legal outcome	135
4.17	A jittered scatterplot of Overall IES scores versus the gap scores for spousal emotional support	143
4.18	A jittered scatterplot of Overall IES scores versus the gap scores for ‘other specialist’ emotional support	144
4.19	A jittered scatterplot of Overall IES scores versus the gap scores for the emotional support of ‘colleagues with similar experience’	145
4.20	A jittered scatterplot of Overall IES scores versus the gap scores for the ‘emotional support of other staff’	146
4.21	A jittered scatterplot of Overall IES scores versus the gap scores for the ‘emotional support of union representatives’	147
4.22	A jittered scatterplot of Overall IES scores versus the gap scores for the instrumental support of ‘other specialist colleagues’.	149
4.23	A jittered scatterplot of Overall IES scores versus the gap scores for the instrumental support of the specialist’s association	150
4.24	Chart showing the Importance of ‘Immediate colleagues’ emotional support by gender.	152
4.25	A bar chart showing the importance of ‘Other specialist colleagues’ emotional support by gender	152
4.26	A bar chart showing the importance of ‘Other staff’ emotional support by gender	153

Figure		
4.27	A bar chart showing the satisfaction of 'Other staff' emotional support by gender	153
4.28	Importance-Performance Map (Martilla and James, 1997)	156
4.29	Importance - Performance Graph for Emotional Support	157
4.30	Importance-performance graph for emotional support with the 22 categories collapsed into four groups	160
4.31	Importance-Performance graph for Instrumental Support	163
4.32	An Importance-Performance graph for instrumental support with the 22 categories collapsed into the four groups	166
4.33	Tertiary Support Responses for Specialist Counselling	170
4.34	Secondary Individual Strategies - Cumulative Response Frequency (Percentage) of 'Useful', 'Very Useful' & 'Extremely Useful'	171
4.35	Secondary Organisational Strategies - Cumulative Response Frequency (Percentage) of 'Useful', 'Very Useful' & 'Extremely Useful'	172
4.36	Tertiary Organisational Strategies - Cumulative Response Frequency (Percentage) of 'Useful', 'Very Useful' & 'Extremely Useful'	173
4.37	Tertiary Individual Strategies - Cumulative Response Frequency (Percentage) of 'Useful', 'Very Useful' & 'Extremely Useful'	174
5.1	Revised Research Framework for Medico-legal Stress	210

CHAPTER ONE

THE PROBLEM AND ITS SETTING

This chapter outlines the key components of this research. It provides an overview of the New Zealand medical environment, including current and emerging medico-legal issues and their challenges. The importance of this study is outlined and the specific problems that this study covers are identified. The research assumptions and limitations are highlighted and the definitions of terms and abbreviations are listed.

1.1 Introduction to the Problem and its Setting

Medico-legal processes are an essential part of ensuring accountability in the delivery of healthcare services. The inception, 10 years ago, of the NZ Health and Disability Commissioner (HDC) has provided a central forum, outside the Medical Council, for healthcare consumers to complain about the healthcare services they have received. Annually, HDC receives approximately 1100 complaints of which around 200 are against medical specialists (www.hdc.org.nz/complaints 2006).

The twenty-one District Health Boards (DHBs) provide public funded healthcare to the NZ population, and legislation requires them to be a 'good employer'. These DHBs employ most of the 2873 specialists that comprise 32.7% of the medical workforce in NZ.

Overseas research has shown that 'malpractice' litigation is a stressful experience for medical practitioners (Charles, 1984; Martin, Wilson, Fiebelman, Gurley & Miller, 1991; Nash, Tennant & Walton, 2004). Changes in NZ occupational health and safety legislation now include workplace stress as a 'hazard' and it is the responsibility of both employers and employees to prevent and manage workplace stress. Likewise, specialist associations are obliged to educate and professionally support their members.

Current research in NZ (Cunningham, 2004) has not quantified the stress impact of medico-legal processes. There is no NZ research identifying the social support that medical specialists perceive to be important during a medico-legal process. Therefore, DHB human resource managers and specialist Colleges cannot be certain about the support strategies to implement.

The next section will provide an overview of the healthcare environment and medico-legal systems that are pertinent to this study.

1.2 An Overview of the Healthcare Environment in NZ

1.2.1 District Health Boards

The NZ Public Health and Disability Act, 2000 legislated the existence of 21 DHBs in NZ. Their responsibility is to improve, promote and protect the health of their communities by providing public health and disability services (www.moh.govt.nz/districthealthboards 2005). In September 2003, the Minister of Health released the government's national quality strategy for health. Eleven goals were identified to improve quality in the Health and Disability Sector (Minister of Health, 2003). Of these goals, two are pertinent to this study. The two goals are:

Goal 7: There is an effective and open communication, co-ordination and integration of service activities that recognize the value of teamwork:

- Communication with people, across teams, within organisations and system-wide is excellent.
- Teamwork is widely valued throughout care systems.

Goal 8: There is a supportive and motivating environment that provides the workforce with appropriate tools, including cultural competency tools, for continuous learning and ongoing improvement in planning, delivery and assessment of health and disability services. Five descriptions selected:

- There are relationships based on trust and mutually responsible behaviour.
- There is ongoing pursuit of competence and education focused on safety and quality across the health and disability support workforce.
- Participants are empowered to make positive change rather than feel helpless and isolated.
- Infrastructure is in place to enhance performance, learn from the experience and deal fairly with failure.
- Management systems support people so that they do not operate in isolation.

(Minister of Health, 2003: 17)

The results from this research should indicate how the implementation of these goals is perceived by medical specialists in relation to medico-legal processes.

1.2.2 NZ Medical Practitioners

To practise medicine in NZ, all medical practitioners have to be registered with the Medical Council. The Medical Council collates medical workforce statistics for the Minister of Health. The latest statistics show 8790 active medical practitioners in 2003, of which 5754 (65.5%) are males and 3036 (34.5%) are women (www.nzhis.govt.nz/stats 2005). This study is limited to NZ medical specialists. A specialist is a:

Medical practitioner who has the appropriate qualifications, training and experience, and is being employed in that capacity

(www.nzhis.govt.nz/stats 2005).

This requires membership of a relevant specialist College. Specialists are the second largest employment category of medical practitioners, after General Practitioners, comprising 32.7% of the medical workforce (www.nzhis.govt.nz/stats 2005).

Thirty-six per cent of specialists obtain their primary medical qualification outside of NZ. Women comprise 30% of the vocationally registered specialists. Doctors who identified themselves as Maori were 2.7%, although the researcher was unable to find out the percentage of specialists who identified themselves as Maori (Medical Council of NZ, 2003: 1).

Medical specialists may be employed on a full-time or a part-time capacity by the DHBs. The specialists may be totally self-employed in private practice or in a mix of private and DHB employment.

The specialist Colleges/Associations provide continuing medical education (CME) for their members and workforce planning for their speciality. A Council of Medical Colleges (CMC) has been set up with representatives from the specialist Colleges, including general practitioners.

1.3 An Overview of the Medico-legal System in NZ

The medico-legal environment in NZ has many legislative acts and structures. Key legislation includes: the Health & Disability Commissioner Act, 1994; Health and Disability Commissioners Amendment Act 2003 (HDCA); the Health Practitioner's Competency Assurance Act 2004 (HPCAA); Injury Prevention, Rehabilitation, and Compensation Act, 2001; the Human Rights Act 1993; and the Coroner's Act 1988.

1.3.1 Health & Disability Commissioner Act 1994 & Amendment Act 2003:

This Act created the Office of the Health and Disability Commissioner (HDC) with the role of:

Promoting and protecting the rights of health and disability consumers, and facilitating the fair, simple, speedy and efficient resolution of complaints (www.hdc.org.nz/aboutus 2006).

In 1996, the Code of Health and Disability Services Consumers' Rights was regulated. This sets out 10 rights of healthcare consumers. Since September 2004, the HDC has provided a single point of entry for all complaints regarding patient care. Any complaint received by the HDC is assessed against the 10, legally enforceable, consumer rights. These rights are:

1. To be treated with respect and privacy
2. To be free from discrimination, coercion, harassment, and exploitation
3. To dignity and independence
4. To appropriate standards of services
5. To effective communication

6. To be fully informed
7. To make informed choice and to give informed consent
8. To have a support person(s) present
9. To have these rights during teaching and research
10. To complain about a provider

(<http://www.hdc.org.nz/files/hdc/code-leaflet.pdf> 2005)

When the HDC assesses a healthcare complaint, there are a number of options. The HDC may: take no action, investigate the complaint, refer the matter to advocacy, or commence an investigation where the rules of natural justice apply.

At the completion of an investigation and report, the HDC may make **recommendations** to the provider, the health professional body, the Minister of Health, DHBs and the Accident Compensation Corporation (ACC).

Where there is a concern about the competence of a medical practitioner, the HDC may recommend that the **Medical Council** consider a review of the practitioner's competence. Alternatively, the HDC may refer the matter to the **Director of Proceedings** for further action. The Director of Proceedings is an independent statutory officer, appointed under the Health and Disability Act, who decides whether to issue proceedings on matters referred by the Commissioner. The Director of Proceedings may bring:

Disciplinary proceedings before health professional disciplinary bodies, including the **Health Practitioners Disciplinary Tribunal** and / or a claim for damages before the **Human Rights Review Tribunal**

(<http://www.hdc.org.nz/complaints> 2006).

The HDCA Act mandates information-sharing and co-operation between the HD Commissioner and other agencies involved in the health and disability sector. This Act also requires that any complaints referred by the HDC to other agencies for resolution are reported back to the HDC (s35) to ensure that a complaint has been properly resolved.

1.3.2 The Health Practitioner's Competency Assurance Act 2004 (HPCAA):

The HPCAA came into effect on 18 September 2004 and has replaced 11 repealed statutes. The principal purpose of the Act is:

To protect the health and safety of members of the public by providing for mechanisms to ensure that health practitioners are competent and safe to practice their professions (Ministry of Health, 2004: 3).

The aim of the HPCAA is to provide consistent accountability across the health professions by limiting specific healthcare activities to specific professions. Authorities

are appointed to be responsible for the registration and determination of the practitioner's competence within a particular health profession.

When a healthcare Authority receives a complaint concerning a health practitioner, it must forward this to the HDC. Likewise the HDC, on receipt of a complaint, must inform the relevant Authority about the health practitioner even if a breach of the Code of Rights has not occurred (Ministry of Health, 2004: 5).

The HPCAA included the formation of the Health Practitioner's Disciplinary Tribunal (HPDT). The HPDT's role is to hear and determine charges against a registered health practitioner. These charges may be laid by the Director of Proceedings (DP) from the office of the HDC or from **Professional Conduct Committees (PCC)** appointed by registration Authorities under the HPCA Act.

1.3.3 Human Rights Review Tribunal

The Director of Proceedings, from the HDC office, may file proceedings with the Human Rights Tribunal, which has the power to order the provider to pay compensation. The recent change in the HDC legislation now allows an aggrieved person to bring proceedings before the Human Rights Tribunal:

Where the commissioner, having found a breach of the Code, has not referred the matter to the Director of Proceedings, or where the Director of Proceedings has decided not to take proceedings (www.hdc.org.nz/proceedings 2005).

1.3.4 The Medical Council

The Medical Council was established under Section 220 of the HPCAA and is primarily responsible for protecting the health and safety of the public. The Council conditions ensure that doctors are competent and fit to practise their field of medicine. A prime focus for the Medical Council is to ensure that complaint systems are effective (Medical Council of NZ, 2005:1).

1.3.5 Accident Compensation Corporation (ACC)

The ACC provides:

Personal injury cover for all NZ citizens, residents and temporary visitors to NZ. In return people do not have the right to sue for personal injury, other than for exemplary damages (www.acc.co.nz 2005).

Since the inception of ACC in 1974 there has been a no-fault, state-funded rehabilitation and compensation for victims of 'medical misadventure', including

medical error and medical mishap. Tort liability for personal injury by accident was abolished in 1972. The ACC provides compensation on assessed need, which is funded by payroll levies and taxes.

The research of Davis, Lay-lee, Briant and Scott (2003: 254) found that:

When assessed against directly comparable rates from tort jurisdictions, the rate of serious preventable patient harm for New Zealand (just under 1 in 100) was close to the published results from the US and Australia, suggesting that the underlying injury of serious risk to patient safety is relatively uniform across medico-legal systems.

In July 2005 the Injury Prevention, Rehabilitation Compensation Amendment Act came into effect. This amendment replaced 'medical misadventure' with a new category called 'treatment injury' that is caused:

As a result of seeking or receiving treatment from a registered health professional (www.acc.co.nz 2005).

When the ACC determine that there is a risk of public harm from a registered health practitioner, this is reported to the HDC.

1.3.6 Coroner's Act 1988

The Coroner's Act 1988 sets out the powers and roles of the coronial process. A death is referred to the Coroner whenever there is something:

Violent, unnatural, unexpected, or suspicious about a death, or where a doctor cannot issue a medical certificate as to the cause of death, or appears to have occurred while the deceased was in the custody of the state (www.justice.govt.nz , 2005).

The Coroner must also be informed when a person dies as a result of an anaesthetic or a medical procedure. Under Section 86 of the State Sector Act 1988, public servants are immune from personal liability arising from claims against a government department. The immunity extends to claims for professional negligence or other breach of duty by a public servant for which the employing department may be vicariously liable (Ministry of Health, 2004). However, as a public servant there is no immunity for prosecution for disciplinary offenses under the HPCAA and there is no indemnity for costs in defending disciplinary charges.

1.4 Occupational Stress and Legislative Requirements in NZ

Two key pieces of legislation impact on the employment of medical specialists and workplace stress within the public sector. The State Sector Act 1988 requires DHBs

to be a 'good employer' and ensure the fair and proper treatment of employees, including the provision of appropriate and safe working conditions.

The Health and Safety in Employment Act 1992 (HSE), Section 6, states that every employer must take all 'practicable steps' to ensure the safety of employees while at work. The first step to be taken in health and safety systems is the identification and management of hazards that have the actual or potential to cause 'harm'.

The HSE Act recognizes that work-related stress may be a 'significant hazard' such that it causes 'serious harm'. Section 7 requires an employer to go through a process of identification of potential or actual hazard that may cause harm from work-related stress.

Guidelines published by the Department of Occupational Safety and Health categorise employment into four main groups (Department of Labour, 1998; Clause 3.2). Category Four includes work that is known to be intrinsically stressful, such as: health care, policing, supervision of disturbed adolescents and air traffic control. The intrinsic stressors in this category:

Could involve activities that are emotionally challenging, draining or even repugnant, require intense, prolonged concentration, or have very high consequences of error (Scott-Howman & Walls, 2003: 228).

The occupation of medicine is known to have intrinsic stressors, with the potential for development of chronic stress. A HDC complaint, ACC 'treatment injury' or Coroner's Inquest, may result in acute stress over and above the existing chronic stressors of healthcare.

The OSH definition of work stress is:

An interaction between the person and their work environment, and the awareness of not being able to cope with the demands of one's environment, when: this realization is of concern to the person, in that both are associated with a negative emotional response. (Scott-Howman & Walls, 2003: 58)

In terms of the HSE Act definition, 'stress' is not 'harm' or 'serious harm' and is therefore not a diagnosis. Where stress is regarded as a possible cause of harm, or serious harm, the harm must fit into a 'recognized medical diagnostic category' (Scott-Howman & Walls, 2003: 187). Psychological or psychiatric diagnoses are categorised by two internationally accepted classifications. The first is the *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition*. This is usually known as the DSM-IV and is published by the American Psychiatric Association - it covers and codes all mental health disorders for both children and adults. The other classification is the

International Classification of Diseases, Edition 10 in Europe and is more commonly known as the ICD10.

The HSE Act prescribes the required conduct for employers in four broad areas: hazard management; information and training for employees; employee participation; and recording and notification of accidents. Employers must, with employee participation, work to eliminate, isolate or minimize the potential hazards or stressors. An employer must ensure that **employees have sufficient knowledge and training** to prevent work-related harm, including harm from work-related stress.

Therefore, the DHBs should be aware of those medical specialists who are involved in medico-legal processes and should be working with them and their immediate managers to eliminate, isolate or minimize the extent or impact of this potential stressor.

Under current structures within the public hospital system, it is the human resource department that is given the responsibility for managing occupational health and safety systems, including workplace stress.

1.5 Current and Emerging Issues and Challenges

The HDC has acknowledged that healthcare complaints need to be handled with care to:

Minimize the risk of toxic effects on patients and doctors, and to maximize the potential for learning (Paterson, 2004: 970).

NZ is facing a serious shortage of medical practitioners by 2021 (NZIER, 2004) and every specialist that leaves the public service or the practice of medicine is a loss to the community. The salaries of specialists are a large part of the operational budget of the public hospital system. As gatekeepers to specialist healthcare services, these practitioners influence the health and well-being of many consumers. DHBs have a moral and legal duty to be a 'good employer'. This involves assisting and supporting medical specialists during a medico-legal process, while minimizing the risk of any subsequent healthcare errors during this process.

Overseas research has shown that the threat of malpractice litigation has caused physicians to practise more 'defensive medicine', especially in the area of diagnostic procedures, recall rates and biopsy recommendations (Kessler & McClellan, 2002; Studdart, Mello, Sage, Des Roches, Peugh, Zappert & Brennan, 2005; Elmore, Taplin, Barlow, Cutter, Hendrick, Abraham, Fosse & Carney, 2005). In a 'capped budget'

environment, this may have a potential flow-on effect of increasing treatment costs and, therefore, limiting patient access to healthcare services.

The healthcare industry is complex and multi-faceted. There are many structures and stakeholders involved in the spending of the healthcare dollar. There are diverse professional groups with divided loyalties and there is the ongoing cultural conflict between health administrators and healthcare professionals (Waldman, Smith & Hood, 2003; O'Connor & Annison, 2002). The divided loyalties of specialists to their patients, Colleges and their employing DHB, as well as the management-physician conflict, may mean that specialists do not feel comfortable admitting that they are under stress.

To take 'stress leave' from a DHB, a medical certificate must be obtained with a mental condition diagnosis relating to standard medical diagnostic criteria, eg from the DSM-IV. Under the HPCAA, the treating medical practitioner is obliged to inform the Vocational Council if they have concerns about a practitioner's mental illness. This may limit the reporting of medico-legal stress by specialists.

A specialist seeking compensation for 'harm' from work-related stress must raise a personal grievance under Section 114 of the Employment Relations Act 2000 within 90 days of when the grievance occurred, or when it came to the employee's notice. However, the:

Nature of harm from stress is that it may be many months (or even years) before an employee realizes (possibly by diagnosis) that he or she has suffered from harm because of conditions in the workplace (Scott-Howman & Walls, 2003: 80).

The Medical Assurance Society (2005: 3) maintains that:

About 25% of those (medical practitioners) making a claim for mental illness is involved with a complaint lodged with the HDC.

Research overseas and in NZ has shown that doctors are susceptible to work stress and 'burnout' (Ramirez, Graham, Richards, Cull & Gregory, 1996) and they do not adequately look after their own physical health (Kay, Mitchell & Del Mar, 2004). A trying medico-legal situation, as an acute stressor overlaying an already chronically stressed specialist, may have deleterious affects on specialist physical and mental well-being and, possibly, on the delivery of health and disability services.

The various Australasian Royal Colleges responsible for specialist vocational training and workforce planning are concerned about the potential impact of medico-legal stress on their Fellows. The Council of Medical Colleges and some of the specialist Colleges have assisted with this study by electronically disseminating this research questionnaire to their Fellow members.

1.6 The Importance of This Study

1.6.1 Substantive Contribution

At present there is no research into the level of distress experienced among specialists. This study uses the Impact of Event Scale as a measure for medico-legal stress. The research findings should provide a benchmark for both assessing NZ specialist distress for future studies and international comparisons in the medical profession as well as across other healthcare / frontline professions.

This research should address the lack of research on the types / sources of social support required to mitigate or buffer the effects of medico-legal distress on the well-being of NZ specialists. The study questionnaire will enable NZ medical specialists to anonymously rate the support given to them by their employer and other professional bodies during a complaints / disciplinary process.

The advantages of this research for organisations such as the professional Colleges, Medical Defense Counsel and Specialist Union would be an improved understanding of the social support that is important to specialists showing how satisfied they were with the support received. This may facilitate service improvement by these organisations.

The results and recommendations from this study should be useful in the development of **pan-association/organization** strategies to diminish the potential for stress during a medico-legal process which impacts on the well-being of the specialist, on the quality of service to patients and on the NZ healthcare system .

Greater knowledge of the impacts of the medico-legal process and subsequent support required should assist the DHBs to fulfill their legal OSH requirements. This research should provide an opportunity for DHB human resource managers to strategically work with external organisations involved with medical specialists to provide appropriate HRM strategies. This may bring about a change in improving the support of specialists, retaining organisational / capital knowledge and enhancing organisational development (Lepak, Bartol & Erhardt, 2005).

The results from this study regarding the perceptions of medical specialists may provide some feedback on the implementation of Goals 7 and 8 in the Ministry of Health Quality Strategy.

This research is exploratory as so little is known about the impact of medico-legal stress and the support required by specialists in NZ. These research results should assist individuals and agencies to assess further research opportunities.

1.6.2 Theoretical Contribution

This research offers a theoretical contribution as it uses the transactional stress-strain-coping framework of Lazarus and Folkman (1984) and the optimum matching theory (Cutrona, 1990) that is applied to a national professional group. The *stressor* relates to a situation-specific (work-based) acute event entailing a **most trying/difficult medico-legal** situation. The moderators or *coping* resources of the stress-strain are cognitive appraisal (including primary and secondary appraisal of threat and control); social support; and coping strategy (problem-solving or emotion-based) in relation to the level of *distress*, as measured by the IES. The subsequent physiological, psychological and relationship strain resulting from the medico-legal stress are subjectively measured.

This research adds to the theoretical literature by including the source of social support (family, colleagues, employers and other agencies) and the type of support (emotional and instrumental) as well as the perceived level of threat and control to a national professional group.

1.6.3 Methodological Contribution

In this study, a methodological contribution to research is made as this is the first time that the Impact of Event Scale (Horowitz, Wilner & Alvarez, 1979) has been used to measure two of the criteria for posttraumatic stress disorder symptoms of NZ medical specialists in response to a situation-specific, medico-legal situation. In addition, the researcher has not found any literature where the method of *importance-performance analysis* (IPA) has been applied to emotional / instrumental support, including the sources of support.

1.7 General Statement of the Problem

From overseas' research, medical malpractice is known to be a stressor and is sometimes referred to as 'Medical Malpractice Stress' (MMS). As yet, there has been no published research quantifying the impact of complaints / disciplinary processes or a coroner's inquest in relation to the symptoms of post-traumatic stress for NZ medical specialists.

There is also no research in NZ identifying any support available for specialists during medico-legal processes, or identifying specialists' perceptions regarding the importance / satisfaction of any support available. As a result, employers, Human

Resource Managers and Specialist Colleges do not have a full understanding of the extent to which specialists are affected by medico-legal processes, either as individuals or as an occupational group.

The Council of Medical Colleges (CMC) is a new forum that could provide strategy development and co-ordination of support for all medical practitioners during a medico-legal process. At this stage, the CMC does not understand the support requirements of medical specialists. However, they are supportive of this research as the first step towards strategy development.

The processes, structures, people and cultures of the national healthcare system are multi-faceted and complex. DHB Medical Directors, HR managers will need to work with appropriate agencies to implement systems that are designed to minimise medico-legal stress. They will need to recognize stress/fatigue when it develops, develop training systems to recognize impairment, be aware of any diversity in the specialist workforce and promote understanding of how both the work environment and non-work related situations affect emotions and stress.

HR will have to work closely with Medical Directors to promote trust and an improvement in manager-physician relationships. HR will need to be proficient in inter-agency liaison, as well as in the more traditional HR practices of job design, communication, understanding diversity and labour relations, promoting teamwork, developing and implementing quality/risk systems and performance management and this all within a systems' environment.

The first step in the risk management of workplace stress is to identify the extent of the stressor, secondly assess the impacts of the stressor on the individuals concerned and finally, identify and evaluate appropriate interventions to eliminate, or moderate the stressor and / or the effects.

To provide direction for this research, the general statement of the problem has been divided into the following sub-problems.

1.8 Specific Statements of the Sub-Problems

This research aims to identify human resource management strategies required to support NZ medical specialists during a medical-legal process so that employers meet their legislative requirements and specialist associations meet the needs of their members.

The interaction of personal and work-related aspects of stress are multiple and complex. Human resource management strategies required to support medical

specialists should reflect both the impacts of the stressor and the specialists' requirements in relation to these. However, at present there is no research that quantifies the individual specialist's level of distress or the support they require. Hence, these have to be ascertained prior to developing HRM strategies.

The multiple perceptions chosen for this research are outlined below in the form of **sub-problems**. They relate to selected aspects of distress levels experienced through a medico-legal process and its impacts; the *importance/satisfaction* of the types of support (emotional/instrumental) experienced by specialists; and the human resource strategies required to support the specialists in future medico-legal situations.

1.8.1 Sub-problem One: The Impact of Medico-legal Processes on NZ Specialists

- (a) What is the perceived level of distress experienced by medical specialists during a medico-legal process (measured by the Impact of Event Scale)?

Hypothesis 1:

A medico-legal situation will cause mild to moderate levels of distress in NZ medical specialists as measured by the IES.

Hypothesis 2:

A medico-legal process, regardless of outcome (favourable or unfavourable), will cause mild to moderate levels of distress in NZ medical specialists.

Hypothesis 3:

A specialist's level of distress from a medico-legal process will be significantly different based on gender.

Hypothesis 4:

Medico-legal situations that take longer to resolve will result in higher levels of distress.

Hypothesis 5:

Levels of distress will be positively related to the exacerbation/cause of physical and emotional/psychological conditions.

Hypothesis 6:

Levels of distress will be positively related to the cognitive appraisal of the extent of the perceived threat to professional identity and reputation.

Hypothesis 7:

Levels of distress will be negatively related to the cognitive appraisal of the control/influence over the medico-legal process outcome.

Hypothesis 8:

A death of a patient and appearance in the Coroner's Court or Disciplinary Hearing will result in higher levels of specialist distress and a greater negative impact on physical, emotional conditions.

Hypothesis 9:

Specialists will not discuss with employers / hospital management the issue of possible stress during the medico-legal process.

Hypothesis 10:

Specialists with mild to moderate levels of distress will not request stress or sick leave during the medico-legal process.

- (b) To what extent did the medico-legal process impact on the specialist's relationship with their spouse/ partner, and was support offered to the spouse/partner.

1.8.2 Sub-problem Two: Social Support and Medico-legal Stress

- (a) To what extent were the types of support (emotional / instrumental) and the source of support *important* to medical specialists and how *satisfied* were they with the support received during a medico-legal process.

Hypothesis 11:

The importance of emotional support will be negatively related to the control over the outcome of the medico-legal process.

Hypothesis 12:

The importance of instrumental support will be positively related to the perceived controllability over the outcome of the process.

Hypothesis 13:

Specialists will place higher importance on, and be more satisfied with, collegial support than organisational support during a medico-legal process.

- (b) To what extent is there a correlation between the *importance /satisfaction* of social support and the *levels of distress* experienced.

Hypothesis 14:

Lower levels of distress are positively related to the gap between the importance – satisfaction of emotional and instrumental support.

1.8.3 Sub-problem Three: Human Resource Management Strategies to Manage Medico-legal Stress

- (a) To what extent do medical specialists find specific human resource strategies/interventions useful during a medico-legal process?

1.9 The Limitations

This research does not include the individual factors of a specialist's *personal life* and *personality* (eg negative affectivity, self-esteem, and cognitive-affectivity) on the level of distress and social support. Nor does it look at the *chronic level of work stress* that may already be present in a specialist occupation. Nor is the aspect of *organisational climate* incorporated into this study.

This study is concerned with social support as a 'situational coping' mechanism and does not include a quantitative analysis of individual coping styles. Instead, a qualitative question is used regarding the use of problem-solving or emotion-based coping strategies.

A key limitation of this research is that it is cross-sectional, not longitudinal and prospective. Therefore, it can only demonstrate a correlation between the dependent and independent variables and cannot prove causality.

Another limitation is that the complaints' process is treated as a single event, with a similar need for social support throughout the process. However, stressful encounters may differ in nature from one stage to another as the stress process is both complex and dynamic (Carver & Scheier, 1994).

For the purpose of this research, complaints are limited to those made to the HDC, ACC and the NZ Medical Council / HPDT, as well as an appearance in a Coroner's Court.

1.10 Definition of Terms

1. **Complaints:**

Patient care complaint – a complaint alleging that the practice or conduct of a medical practitioner/medical provider has affected a health consumer in violation of the Code of H & D Services Consumer Rights.

2. **Harm:**

- (a) means illness, injury, or both, and
- (b) includes physical or mental harm caused by work-related stress
(HSEA, 1992)

Harm may be so severe as to constitute ‘serious harm’.

3. **Hazard:**

- (a) means an activity, arrangement, circumstance, event, occurrence, phenomenon, process, situation, or substance (whether arising or caused within or outside a place of work) that is an actual or potential cause or source of harm; and
- (b) includes –
 - (i) a situation where a person’s behaviour may be an actual or potential cause or source of harm to the person or another person; and
 - (ii) without limitation, a situation described in subparagraph (i) resulting from physical or mental fatigue, drugs, alcohol, traumatic shock, or another temporary condition that affects a person’s behaviour’ (HSEA, 1992).

4. **Human Resource Management Strategies:**

Planned human resource decisions and activities to achieve an organization’s major objectives and the satisfaction of individual employee/member needs.

5. **Medical Specialist:**

A medical specialist is defined as ‘medical practitioner who has the appropriate qualifications, training and experience and is being employed in that capacity’ (NZ Health Information Services, 2005).

6. **Medico-Legal**

For the purpose of this research, the medico-legal process is limited to the Coroner’s Court, Health & Disability Commissioner (HDC), the Medical

Council of NZ and any Accident Compensation Corporation (ACC) complaints that are referred to the Health and Disability Commissioner.

7. Significant Hazard:

A hazard that may be the source of 'serious harm'.

8. Stress:

'The awareness of not being able to cope with the demands of one's environment when this realization is of concern to the person, in that both are associated with a negative emotional response' (HSEA Guidelines, 1992).

Where stress is regarded as a possible cause of harm or serious harm, it must fit into a recognized medical diagnostic category.

9. Stress Management Interventions:

'Any activity, programme, or opportunity initiated by an organization, which focuses on reducing the presence of work-related stressors or on assisting individuals to minimize the negative outcomes of exposure to these stressors' (Ivancevich et al., 1990).

10. Stressor:

Events or circumstances which generally result in pressure and has the potential to cause harm by the perception that physical or psychological demands are about to be exceeded.

11. Post Traumatic Stress Disorder (PTSD):

DSM-IV Diagnostic Criteria (309.81)

A Traumatic stressor

- 'An event, or events, in which an individual experiences, witnesses, or is confronted with life endangerment, death, or serious injury or threat to other; and
- The individual responds to the experience with feelings of intense fear, horror or helplessness

B Re-experiencing symptoms (one or more)

- Intrusive recollections, distressing dreams; flashbacks; dissociative behaviour; psychological and physical distress with reminders of the event

C Avoidance and numbing symptoms (three or more)

- Avoidance of thoughts, feelings, or conversations associated with the event; avoidance of places, situations, or people that are reminiscent of the event; inability to recall important aspects of the event; diminished interest;

estrangement from others; restricted range of affect; sense of a foreshortened future.

D Hyperousal symptoms (two or more)

- Sleep disruption; impaired concentration; irritability or anger outbursts; hypervigilance; exaggerated startle reaction.

E Minimum symptom duration of one month

F Symptoms cause distress or functional impairment'

Specifiers

Acute: Symptom duration from one to three months

Chronic: Symptom duration greater than three months

Delayed onset: Symptom onset at least six months after the stressor.

12. Practicable Steps:

Reasonable conduct having regard to the number of features of both the harm and the employer's circumstances and knowledge.

13. Fellow

A medical practitioner able to be registered as a 'Fellow' with a Royal Australasian College due to their approved specialist qualifications.

14 Social Support

'A multidimensional construct that refers to the characteristics and functions of social relationships thought to enhance mental and physical health' (Rodriguez & Cohen, 1998; 535).

1.11 Abbreviations

For the purpose of this research the following abbreviations apply:

ACC	Accident Compensation Corporation
CMC	Combined Medical Colleges
DHAS	Doctors' Health Advisory Services
DHB	District Health Board
HDC	The Health & Disability Commissioner
HPCAA	Health Practitioners Competency Assurance Act
HSE	Health & Safety in Employment Legislation
IES	Impact of Event Scale
MMS	Medical Malpractice Stress
NZ	New Zealand
OSH	Occupational Safety & Health

PTSD	Post Traumatic Distress Disorder
SPSS-13	Statistical Package for Social Sciences - 13
USA	United States of America

1.12 Assumptions

1.12.1 Assumption One:

This research assumes that the responses to the questionnaire obtained in the data collection stage of the study are valid predictors of the *perceptions* of respondents to this research.

1.12.2 Assumption Two:

This research assumes that the Likert type scales used in the questionnaire contain interval properties.

1.13 Thesis Outline

Chapter Two will provide a detailed review of the current and past literature relevant to the research topic. It will include the issue of medico-legal processes and their impact on medical practitioners, coping and support processes and human resource management strategies used to deal with occupational stress.

Chapter Three will discuss and identify methods used in research design, data collection and analysis.

Chapter Four will outline the results obtained during the research and Chapter Five will provide conclusions and any recommendations as a result of this research.

CHAPTER TWO

LITERATURE REVIEW

This chapter provides an overview of the available literature on medico-legal stress, social support theory and current occupational stress management interventions. It is divided into three sections.

Section One: The Impact of Medico-legal Processes on Medical Practitioners
(Sub-problem One)

Section Two: Social Support and Medico-legal Stress (Sub-problem Two)

Section Three: Human Resource Strategies to Manage Medico-legal Stress
(Sub-problem Three)

2.1 Section One: Medico-legal Processes & the Impact on Medical Practitioners

Chapter 2 will review current literature on the impacts of medico-legal processes in an international and NZ context and the issue of social support and HRM interventions available for the management of medico-legal occupational stress.

Section One will briefly discuss the theoretical stress model of Lazarus and Folkman (1984) that provides a framework for this research, as well as review the overseas and NZ literature to explain how medico-legal processes impact on the medical practitioners, the practice of medicine and family relationships. This section will consider how the impact of the medico-legal process may be affected by the cognitive appraisal of the event, the death of a patient, gender and the type of surgical speciality of the practitioner.

Section Two reviews the current literature on social support and its application to medico-legal stress. The overseas' experience is examined for those factors that may be important variables to support medical practitioners in NZ.

Section Three examines current literature for HRM strategies for the management of occupational stress and how these may be applicable to medico-legal stress within the context of the NZ health sector.

The North American literature refers to medical practitioners as 'physicians' and uses the term 'malpractice litigation'. The European and Australasian literature refers to medical practitioners as 'doctors' and these are often sub-categorised into 'specialists' and 'general practitioners'. These countries also use the term 'complaints' or 'medico-legal processes'. For the purpose of the literature review, terms used for 'medical practitioner' and 'medico-legal process' will be the same as those used by the authors of the literature reviewed.

2.1.1 The Transactional Theory of Stress

The NZ OSH definition of work stress used for this study is:

An interaction between the person and their work environment, and the awareness of not being able to cope with the demands of one's environment, when: this realization is of concern to the person, in that both are associated with a negative emotional response (Scott-Howman & Walls, 2003: 58).

This definition is based on the transactional theory of stress by Lazarus and Folkman (1984: 9). In their transactional *stressor-strain* approach, an event (stressor) could result in strain that can be classified as physiological, psychological, and behavioural strain.

However, the interaction between the *stressor-strain* is modified by the *cognitive appraisal* (or meaning) that the individual may give to the stressor. This cognitive appraisal takes two forms – that of primary appraisal and secondary appraisal. Primary appraisal consists of the individual judging the stressor as ‘irrelevant, benign-positive or a stressful threat’ (Lazarus & Folkman, 1984: 53). Secondary appraisal requires the individual to evaluate their own abilities and resources to deal with the stressful event as well as identifying the possible consequences of their chosen actions.

‘Coping’ is the other mediating process in the Lazarus and Folkman (1984) stress-strain theory. These are the individual’s cognitive and behavioural initiatives made to manage the demands of the stressor. Social support is viewed as a form of coping assistance (Thoits, 1986: 417). Inherent in the stressor-strain model is the dynamic nature of the individual’s subjective appraisal and coping mechanisms. Dollard (2001: 23) has simplified this model to:

Stressor ↔ Cognitive appraisal ↔ Coping → Strain

Section One will review the medico-legal literature in relation to this transactional theory of stress. This will involve assessing the extent a medico-legal process is deemed to be a ‘stressor’, how doctors appraise and cope with such a process and the extent this causes ‘strain’. Firstly, the incidence of ‘complaints’ will be reviewed as the context for this study.

2.1.2 Incidence of Complaints

The issue of medical errors and the subsequent burden on patients (Stelfox, Gandhi, Orav & Gustafson, 2005; Bismark, Brennan, Paterson, Davies, & Studdert, 2005), hospitals (Rigby & Little, 2000) and the practice of medicine (Mello, Studdert & Brennan, 2005) is receiving increasing attention. The delivery of healthcare that is perceived as being substandard or that results in an adverse outcome also places a burden on the medical workforce involved.

In the USA Couch and Thiebaud (2002: 30) identified that, each year, nearly one litigation claim is made overall for every five physicians and one claim is made against every 2.5 obstetricians, neurosurgeons and orthopaedic surgeons. Although the American system of malpractice litigation is different to that of New Zealand, the NZ Health & Disability Commissioner has determined the health rights of consumers’ and the complaints’ process.

Over the past few years the number of complaints lodged with the NZ HDC has declined. In the year ended 30 June 2006, the HDC received 1,079 complaints, compared to 1,124 for 2004/5; and 1,142 for 2003/4 (HDC Annual Report, 2006:1). Likewise, there has been a corresponding decline in total number of medical practitioners subject to complaints. In the period 2005/2006, there were a total of 390 individual medical practitioners who were subject to complaints via the HDC, compared to 494 for 2004/5; and 492 for 2003/4.

Complaints against individual medical practitioners may be divided into two broad categories, those against general practitioners and those against medical specialists involved in secondary healthcare. For the year 2005/6, 204 complaints were against general practitioners (GPs) and 172 against medical specialists. In 2004/5, 494 complaints were lodged, of which 244 were against GPs and 242 against medical specialists (HDC Annual Report, 2006: 26). In addition, group providers may be subject to a complaint as an entity. The HDC reported that there were 662 complaints against group providers of which 363 were against public hospitals and 23 against private hospitals (HDC Annual Report, 2006: 28). Although these complaints were against group providers, medical specialists would probably be involved in any investigation process and proceedings.

The HDC found 98 *individual* providers **in breach** of the Code of Rights. These included 24 medical specialists that were not referred to the Director of Proceedings; however, nineteen individual providers were found in breach **and** referred to the Director of Proceedings, of which 4 were medical specialists (HDC Annual Report, 2006: 34).

Cunningham, Crump and Tomlin (2003: 631) suggest that in NZ 'almost one in every seventeen doctors will receive a complaint' if they decide to practise medicine for another year.

The potential for occupational stress from a medical error and/or subsequent medico-legal process needs to be understood before HRM strategies and stress management interventions are planned and implemented.

2.1.3 Personal and Professional Impact of Medico-legal Processes

Twenty years ago Charles, Wilbert and Kennedy (1984) published a paper that studied the subjective reactions of physicians who were facing malpractice litigation in Illinois, USA. These researchers surveyed twenty-one physical and psychological symptoms caused by the stress of being sued, of which the most prevalent symptom was

anger, followed by mood changes, inner tension, depressed moods and frustration (Charles et al., 1984: 564). During the course of litigation Charles et al. (1984: 565) found that 8% of the 154 physicians had the onset of a physical illness, including three physicians who had myocardial infarcts; a further 11% noted an exacerbation of a previously diagnosed illness. In addition, only 4% of physicians showed **no** evidence of any emotional or physical symptoms that could be attributed to the medico-legal process. It should be noted that in this study, 96% of the survey respondents were male.

The above research was the first to demonstrate the effects of malpractice litigation on physicians. Subsequently, Martin, Wilson, Fiebelman, Gurley and Miller (1991: 1300) showed that the malpractice litigation was a major life trauma and that the stress from litigation decreased over time but did not return to the baseline level until two years later.

The literature from 1966 to 2003 on the psychological impact of complaints and malpractice litigation was reviewed by Nash, Tennant and Walton (2004: 281). It showed that doctors found the medico-legal process to be an extremely stressful experience. Furthermore, there was alcohol abuse, physical illness and suicidal tendencies while depression and adjustment disorders were relatively common.

The Committee on Professional Liability of the American College of Obstetricians and Gynecologists (ACOG, 2000: 65) has recognized the impact litigation may have on physicians and they state that:

Being a defendant in a medical liability lawsuit can be one of life's most stressful experiences.

In addition, it warns their members that during a litigation process, they may experience increased stress alongside distressing emotions that could adversely impact their personal and professional relationships, their medical practice and their relationship with their patients.

Couch and Thiebaud (2002: 31) acknowledge that sued physicians go through a pattern of emotional responses similar to the stages of grieving, including the stages of shock and denial which can lead to anger and depression. In addition, Couch and Thiebaud (2002: 31) highlight the prevalence of the emotional trauma of isolation, shame and fear that follows a litigation process.

Having been through a medical malpractice trial, Ritter, an Orthopaedic surgeon in the USA, (Ritter & Ritter, 2003: 27), stated that:

This is an event that I would not wish on my worst enemy. The emotional drains are worse than you will understand unless you go through them

yourself. This experience will affect you for the rest of your life.you will always remember this an enormous attack on your life and honour.

In addressing such concerns, the MAG Mutual Insurance Company has a website for their clients called 'Managing Malpractice Stress' where they list some typical symptoms of what they call the medical malpractice stress syndrome (MMS). These symptoms can include a negative self-image, feelings of isolation, massive emotional impact, anger syndromes that may present as physical symptoms and fatigue syndromes (<http://www.mag,utual.com/risk/malpractice-stress>).

Another healthcare provider, HealthTexas Provider Network (HTPN), is a physicians' organisation governed by physicians. It employs 350 physicians and contracts another 1,600 physicians. Their clinical leaders realise that despite the best efforts in managing quality, malpractice litigation will be inevitable and this may be very stressful to physicians. The HTPN gives an example of the initial shock felt by a physician (Couch & Thiebaud, 2002: 31):

One physician was so stunned by being served with notification of a lawsuit that he could not talk for almost one hour and could not continue his schedule of seeing patients for the rest of the day.

From the cited overseas literature it is evident that malpractice litigation and medico-legal process may have deleterious impacts on the psychological and physical well-being of the individual medical practitioner. Wu (2000: 726) aptly refers to the doctor who makes a mistake as the '**second victim**' and says:

Virtually every practitioner knows the sickening feeling of making a bad mistake. You feel singled out and exposed – seized by the instinct to see if anyone has noticed. You agonize about what to do, whether to tell anyone, what to say. Later, the event plays itself over and over in your mind. You question your competence but fear being discovered. You know you should confess, but dread the prospect of potential punishment and of the patient's anger.

The reviewed overseas' literature shows that it is generally accepted that malpractice litigation is a stressful event for physicians. However, in NZ, the medical complaints' process did not receive much attention until the enactment of the Health and Disability Commissioner Act (HDC) in October 1994. This Act introduced an independent complaints' resolution process and the Code of Patient Rights as suggested by Judge Cartwright following the 1988 Cervical Cancer Inquiry. Prior to this, medical complaints were handled by the individual hospitals, the ACC and the Medical Council.

The first NZ research on medical complaints and litigation was undertaken on general practitioners by Cunningham and Dovey (2000). This research was extended to

include other vocational groups – hospital-based specialists and other general registrants on the NZ medical register - by a survey in 2001. Of the 201 doctors who had received a complaint, Cunningham (2004:79) notes that there appeared to be an immediate negative impact on the doctor as:

They experienced emotions, including anger, depression, shame, guilt, and reduced enjoyment of the practice of medicine.

The notion of ‘shame’ experienced by doctors going through a medico-legal process is highlighted in overseas literature (Charles, 1984; Brazeau, 2001; Couch & Thiebaud, 2002) and now in NZ literature (Cunningham, 2004).

The research by Cunningham (2004: 978) highlights a difference between the short and long term impact on the emotional state of the doctors surveyed. The short term included those immediate days after receipt of the complaint and for a period up to six weeks, after which the emotional impact of the complaint ‘softened’. Cunningham (2004: 972) suggests:

That in the first few days and weeks after receiving a complaint, a doctor may need emotional and practising support.

Furthermore, Cunningham, Crump and Tomlin (2003: 628) found that for those NZ doctors receiving complaints, there was no significant difference ‘between doctors who had graduated from New Zealand universities and those from overseas institutions’. Also, there was no difference in the emotional impact of the complaint on doctors from different vocational groups, in particular general practitioners or hospital-based specialists.

In a study by Caplan (1994), British doctors were found to be healthier than the average person in the community but they were more vulnerable to significant psychological issues and more likely than the average person to use drink and drugs and to suffer from depression. On the other hand, Dowell (2001: 540) who surveyed the job satisfaction and sources of stress and psychological symptoms among NZ health professionals found that in each of the health groups:

Approximately 10% describe a level of symptoms that is associated with more severe psychological disturbance.

In addition, the Dowell (2001: 540) study showed that doctors in NZ are under some stress. Nevertheless, comparisons between responses to descriptive statements on stressors did not include specific reference to the impact of medico-legal processes. The impact of a complaint and resultant medico-legal process may impose an acute stressor on those doctors who may already be chronically stressed. In this respect, Nash, Tennant and Walton (2004: 278) postulate that the personality style of many doctors

may make them more vulnerable to the stress of a medico-legal process because a complaint may be viewed as an insult to their professional integrity and failure to meet the medical code of ethics, especially within a 'medical culture of infallibility'.

The literature reviewed regarding the impact of medico-legal processes seems to result in a more complicated situation than merely occupational stress. The word 'trauma' is used a number of times in various papers (Charles et al., 1984; Couch & Thiebaud, 2002). It may be that a notification of a complaint and subsequent litigation process may produce *symptoms* of Post Traumatic Stress Disorder (PTSD) resulting in different outcomes for the individual and requiring different management interventions for the organisation.

Post Traumatic Stress Disorder (PTSD)

PTSD is an anxiety disorder that is usually defined by 'the coexistence of 3 clusters of symptoms, namely re-experiencing (intrusion), avoidance, and hyperarousal' (Shalev, 2001: 4). This disorder is distinct from the other psychological disorders in that there is a requirement for exposure to a sudden, traumatic external event (Connor & Butterfield, 2003: 248).

Post-traumatic stress is often used in conjunction with the term critical incident stress. Initially it was used to define stress from military combat, criminal violence and natural disasters (Breslau, 2001). Now the death of a loved one is included in the range of traumatic events and there is a subjective component that requires the person's response to involve 'intense fear, helplessness or horror' (DSM-IV, 1994). It has been estimated that PTSD affects 8%-9% of the population (Connor & Butterfield, 2003: 247) and it occurs more frequently in women than in men (Ballenger, Davidson, Lecruiber & Nutt, 2000: 61). Some people present with symptoms of PTSD six months or more after a traumatic event and they are diagnosed with 'delayed-onset PTSD' (Shalev, 2001: 5). These people often present with depression and 'the underlying PTSD is undetected by the physician' (Ballenger et al., 2000: 61).

PTSD is strongly associated with suicide and compares with depression in terms of its impact on careers and relationships (Ballenger et al., 2000: 61). The predictive factors for PTSD not only include the involvement of violent trauma but also how severe the trauma is and the length of time the trauma continues. Ballenger et al., (2000: 62) highlight the importance of the recovery period from the trauma and whether or not it is associated with secondary stressors including blame and job loss. Although a

complaint or a medico-legal process is not classed as a violent incident it may be a 'shocking' experience and could manifest the *symptoms* of PTSD.

Horowitz, Wilner and Alvarez (1979) compiled the Impact of Event Scale (IES) to provide a self-report assessment of the reaction to an identified traumatic event. They maintained that individuals vacillate between avoidance and intrusion until such time as they are able to process the information and understand the event in the context of their worldview (Horowitz et al., 1979: 217). If the person is unable to process the information and accept the situation, they are then likely to develop PTSD.

A study undertaken to measure the distress of police officers during a police public inquiry, using the Impact of Event Scale (Regehr, Johanis, Dimitropoulos, Bartram & Hope, 2003: 387) showed that:

50% of the officers fell into the high or severe range on the IES following the public inquiry, and suffered several reactions which are consistent with post-traumatic stress.

Van der Ploeg, Dorrensteijn and Kleber (2003: 157) completed a study on the impact of critical incidents and chronic stressors on 132 forensic doctors of 11 public health services in Holland. Their research aims were to explore the consequences of critical incidents on the health of forensic doctors and whether these acute stressors and health symptoms could be combined with chronic stressors to form a path model. The Impact of Event Scale (IES) was used to self-report on any post-traumatic symptoms of avoidance or intrusions. Three quarters of the forensic doctors had reported one or more critical incidents in the past five years (Van der Ploeg et al., 2003: 162) and the results showed that:

The more forensic doctors were confronted with critical incidents, the more they suffered from characteristic posttraumatic responses.

This may be of importance for those NZ medical specialists who have had more than one complaint made against them.

As a medico-legal situation is a specific, identifiable situation that has the potential to cause distress and trauma, the Impact of Event (IES) scale is a reliable, valid measure that could be used to ascertain their level of distress and whether or not NZ specialists experienced *symptoms* of posttraumatic stress during a medico-legal process.

Professional Impact

The psychological and physiological strain resulting from a medico-legal process may have ramifications for the professional performance of doctors. In the study by Charles, Wilbert and Kennedy (1984: 563) of a 154 physicians that had

experienced a litigation process, the respondents admitted to some indecisiveness in certain clinical situations and sometimes an inability to concentrate. A further study by Charles, Pyskoty and Nelson (1988: 358) of 64 physicians that had been involved in a malpractice trial, found that as a result of the medico-legal process, 67% of physicians performed unnecessary tests; 41% stopped seeing certain patients; 14% stopped undertaking high-risk procedures and 31% questioned their own competence.

The effects of litigation on clinical practice was analysed by Bark et al. (1997: 9) and not all of it was perceived to be detrimental as:

Most considered that the threat of litigation has led to attempts to improve communication with patients and staff to keep better records.

Furthermore, Bark et al. (1997: 9) found a difference between surgical and medical specialities whereby 30% surgeons involved in litigation subsequently avoided certain procedures and 22% of surgeons also avoided certain staff. For those physician specialists involved in litigation, 20% avoided certain procedures and 10% avoided certain staff.

A similar avoidance of certain procedures was also found by Nash, Tennant and Walton (2000: 280) in their meta-analysis of the impacts of litigation where the majority of doctors 'who have been the subject of a complaint or law suit practice more defensively.' This deterioration in the practice of medicine could add further occupational stress to the doctors involved.

An important consideration highlighted by Cunningham (2004: 979) for the medical profession and the health sector is that complaints appear to 'damage the trust and goodwill toward patients' and 'may adversely impact on the doctor's ability to practice medicine in a day-to-day- setting'. The researcher could find no studies that quantified 'defensive medicine' as a result of NZ medico-legal processes.

The literature reviewed indicates that a medico-legal process has the potential to cause psychological and physiological strain for doctors.

Gender and Medico-legal Stress

The NZ research by Tapper, Malcolm and Frizelle (2004) on surgeons' experiences of complaints did not identify the responses by gender. Cunningham et al. (2003: 627) and Cunningham (2004) researched the self-reported impact of a complaint on NZ doctors of which 32% doctors were female. However, the results were not discussed by gender.

Theorell (2000: 1417) has shown that Scandinavian female doctors have a higher suicide rate than Scandinavian male doctors, and suggests that women doctors may be more sensitive to the emotional demands of medicine. Furthermore, Theorell (2000: 1417) suggests that as the proportion of women medical students and women doctors are increasing, gender differences should be explored.

It is unknown whether or not there are gender differences in NZ specialists in relation to the impact of medico-legal processes. However, Richardson and Burke (1993: 811) showed that time pressures and the **threat** of malpractice litigation were the major sources of occupational stress for 303 Canadian women physicians.

Thus, if female doctors experience more psychological distress at the death of a patient and require more social support to cope after a patients' death, then this may become a gender issue for senior specialists in hospitals and hospital management.

Medico-legal Impact on Families & Relationships

The literature reviewed has shown that a medico-legal process has an emotional and physical impact on the individual doctor and how they practice medicine. In addition, the literature also shows a 'spill-over' effect of this occupational stress to the doctor's family (Charles, 1984: 565; Tapper et al., 2003: 983). An example of this would be the carry-over of a work stress (eg medico-legal process) into the home where it could become a marital stressor. The corollary of 'stress carry-over' could be when a stressful work situation has a positive or constructive effect on family relationships, for example by sharing feelings and improving communications.

Reineck (1988: 285) notes that the impact of litigation on families is underestimated as the sued physician may fail to recognize the potential for medico-legal stress to accentuate stresses that are already occurring within the family. Feelings of anger, shame, unworthiness and inadequacy that can be a result of a medico-legal process may cause some doctors to withdraw themselves from their colleagues, their spouse and family support and become very uncommunicative.

Furthermore, Reineck (1988: 285) notes that the stress factors of the spouse are very similar to those of the physician and may include a feeling of:

Marital isolation, financial vulnerability, socially awkwardness and isolation as well as a deep sense of loss in watching the reactions of the physician spouse.

Regarding the importance of spousal support and the potential detrimental effects on relationships Ms Ritter (Ritter & Ritter, 2003: 27) states:

My question to myself is how to be supportive, to keep a reasonable objective approach, to keep our family on an even keel, and to survive this process, get something out of it for our own knowledge to help build our character?

Currently no NZ literature is available that has dealt with the impact of specialist medico-legal stress and its subsequent effect on spousal relationships.

The literature reviewed on the impacts of medico-legal processes identifies a number of important variables that could affect the extent of medico-legal stress. These include the specialist's cognitive appraisal of the event, the outcome of the litigation process, the time taken to resolve the medico-legal process, whether there was a patient death and subsequent 'hearing', and communication with hospital management. The literature on these variables will now be reviewed.

2.1.4 Cognitive Appraisal

Charles et al., (1988: 359) comment that the way physicians appraise a medico-legal situation will affect the impact that the event subsequently has on their well-being. This concept of *cognitive appraisal* is a central component of the transactional stressor-strain model of Lazarus and Folkman (1984). They maintain that cognitive appraisal acts as a mediating variable between a stressful situation and the subsequent adaptational outcomes. This stressor-strain model identifies two kinds of cognitive appraisal which can affect the coping strategies required: primary and secondary appraisal. Primary appraisal is the *appraisal of threat* of the stressor while secondary appraisal is the *appraisal of controllability* of the stressful situation (Lazarus & Folkman, 1984).

A threat is perceived as a potential danger to one's well-being or self-esteem, involving harm or loss (Lakey & Cohen, 2000:34). A complaint and medico-legal process has been shown by the literature to be a potential threat to a specialist's livelihood, self-esteem and general well-being. If cognitive appraisal acts as a mediating variable in the stressor-strain model (Lazarus & Folkman, 1984), then it would seem likely that the more a medico-legal situation is perceived as a threat then the greater the level of distress the specialist will experience.

The secondary cognitive appraisal of controllability is when the individual evaluates whether or not they can do anything to diminish the potential harm or improve any benefits, thus mitigating the impact of the stressor (Folkman, Lazarus, Dunkel-

Schetter, DeLongis & Gruer, 1986: 993). In a medico-legal process, the specialist may believe they could affect the outcome by preparing better reports, being trained in communication or having a good 'expert witness'. Thus the greater the perceived control over the medico-legal outcome, the less distress the specialist should experience.

International research has shown (Theorell, Emdad, Arnetz & Weingarten, 2001: 724) that when there is little opportunity to exert control over one's own work situation, there is:

A risk factor for myocardial infarction, gastrointestinal disorder, sick leave and psychological symptoms such as tiredness and depression.

Doctor's lack of control over their work has shown to be associated with psychological disorder and dissatisfaction (Tennant, 2001: 699). Whether or not a sense of controllability over a medico-legal process will improve physiological and psychological symptoms is unknown.

2.1.5 Medico-legal Outcome

Charles et al., (1988: 359) indicated that:

In terms of symptomatic and behavioural responses to malpractice litigation, it does not matter whether a physician goes to trial or even whether he or she is vindicated by a favourable trial outcome.

The profound emotional distress which sued physicians experience in the USA appears to have 'no correlation with the guilt or innocence, as eventually established by the legal system' (Couch & Thiebaud, 2002: 30). It appears that a doctor receiving a complaint does experience stress, and it doesn't appear to matter whether or not the medico-legal outcome is favourable or unfavourable.

The above papers emphasize the vulnerability of those physicians who lose litigation proceedings and found that their need for support was not satisfied. This is an issue to be considered by DHB management and specialist Colleges for those doctors who are fined, cautioned or placed under supervision by a Disciplinary Tribunal.

2.1.6 Time Taken to Resolve the Medico-legal Process

Charles et al., (1984: 565) maintain that the litigation process is normally lengthy and characterized by delays and that this can extend acute litigation stress to a *chronic* stress situation whereby this could become a 'factor in physician impairment'. The articles by Nash et al., (2004: 280) and Kelly and Gebhardt (2004) further highlight

the issue of length of time of complaints or litigation processes and how this may turn the medico-legal process into a chronic stressor.

An analysis of 500 medico-legal claims brought against British Obstetricians and Gynaecologists showed that the time taken from complaint to settlement/court hearing being anywhere from three to five years (B-Lynch, Coker & Dua, 1996: 1239).

A medico-legal process may initially be an acute stressor as it involves the professional competency and judgment of the medical specialist per se and may have immediate and long-term impacts on the specialist's livelihood and well-being. The literature has shown that a medico-legal process can go on for years before there is any resolution and this can turn the acute stressor into a chronic stressor. At this stage, no research in New Zealand is available to directly show the link between acute and chronic stressors in relation to complaints against medical specialists.

2.1.7 Patient Death & Public Inquiries

Redinbaugh, Schuerger, Weiss, Brufsky and Arnold (2001: 188) highlighted the grief or psychological distress experienced by health care professionals when a patient dies and interestingly, female doctors reported more psychological distress than male doctors. This point is further emphasized in a qualitative study of 37 emergency workers in Canada who went through a public inquiry after a death in-care whereby they felt betrayal, anger and reduced commitment due to the lack of organisational support (Regehr, 2003:6). They believed that the organisation was more interested in avoiding litigation than supporting workers.

Ritter (in Ritter & Ritter 2003: 27) stated that although the whole litigation process is stressful, however:

The trial is worse; it is worse than anything you have experienced; prepare to be insulted and interrogated for hours.

The impact and subsequent support that may be required by medical specialists participating in a NZ Coroner's Inquest or other NZ medico-legal inquiry is unknown. If the specialist support needs are unmet, the same feelings of betrayal and anger may be experienced.

The death of a patient is the most serious adverse outcome of healthcare delivery and Parker and Lawton (2003: 455) have shown that judgments of responsibility and blame are associated with the seriousness of the outcome of an adverse incident. Thus according to Parker and Lawton:

Colleagues and patients will be less sympathetic and will tend to blame the perpetrator to a greater extent, the more serious the outcome of the mistake and the more a protocol or guideline was not followed.

Another study of the emotional reactions of hospital doctors to the recent death of a patient showed that 'women and those doctors who had cared for the patient a longer time experienced stronger emotional reactions' (Redinbaugh, Sullivan, Block, Gadmer, Lakoma, Mitchell, Seltzer, Wolford & Arnold, 2003: 85).

Complaints against NZ specialists may involve a patient death, in which case the doctor is not only dealing with the trauma of the death of a patient, but experiences the additional burden of having their professional conduct under scrutiny.

2.1.8 Communication with Management Regarding Medico-legal Impact

The literature discussed in the previous sections has shown that medico-legal processes can cause occupational stress to a doctor with potential negative impacts on their well-being, their relationships and on the quality of healthcare delivered to patients. A physician executive, Dr Mark Gorney (2002: 28), maintains that if a doctor 'attempts to sustain normal productivity standards and schedule demands', feelings of stress and anxiety may be compounded.

The emotional impact of the complaint or medico-legal process can make doctors question their sense of adequacy and worth so admitting that they may not be emotionally coping may further compound the sense of inadequacy. Being able to share these feelings with someone may be difficult for many specialists. In addition, the differences in the 'cultures' of management and physicians (Kaissi, 2005: 171), may mean that specialists do not feel comfortable admitting to their DHB managers that they are under stress.

Sick leave can be an indication of work stress (Kivimaki, Sutinen, Elovainio, Vahtera, Rasanen, Toyry, Ferrie & Firth-Cozens, 2001: 561), however Theorell (2005: 1028) hypothesizes that taking sick leave as a form of coping with occupational stress will be influenced not only by the individual personality but also by the work environment. In NZ public hospitals, if a specialist takes stress or sick leave, the burden of their work, including after-hour calls, is carried by the remaining doctors in that speciality. This can be a large burden, especially in the smaller regional hospitals where only a small number of specialists are employed in each department (eg Orthopaedics). Furthermore, patients who have waited up to six months for an appointment, or sometimes years for surgery, will have to be delayed and this could compound the guilt that the specialist may already be feeling from the medico-legal process. Thus it is

unlikely that sick leave would be a useful indicator of the distress that a specialist may be enduring.

A medical certificate showing a diagnosed mental condition is required for a NZ specialist to take 'stress leave' from a DHB. This may limit the communication of medico-legal stress by specialists to their employer.

2.1.9 Research Hypotheses for Medico-legal Stress

Based on the review of current literature on medico-legal stress, the following hypotheses have been formulated:

Hypothesis 1:

A medico-legal situation will cause mild to moderate levels of distress in NZ medical specialists as measured by the IES.

Hypothesis 2:

A medico-legal process, regardless of outcome (favourable or unfavourable), will cause mild to moderate levels of distress in NZ medical specialists.

Hypothesis 3:

Specialists' level of distress from a medico-legal process will be significantly different based on gender.

Hypothesis 4:

Medico-legal situations that took longer to resolve will result in higher levels of distress.

Hypothesis 5:

Levels of distress will be positively related to the exacerbation/cause of physical and emotional/psychological conditions.

Hypothesis 6:

Levels of distress will be positively related to the cognitive appraisal of the extent of the perceived threat to professional identity and reputation.

Hypothesis 7:

Levels of distress will be negatively related to the cognitive appraisal of the control/influence over the medico-legal process outcome.

Hypothesis 8:

A death of a patient and appearance in the Coroner's Court or Disciplinary Hearing will result in higher levels of specialist distress and a greater negative impact on physical, emotional conditions.

Hypothesis 9:

Specialists will not discuss with employers / hospital management the issue of possible stress during the medico-legal process.

Hypothesis 10:

Specialists with mild to moderate levels of distress will not request stress or sick leave during the medico-legal process.

2.2 Section Two – Literature Review of Social Support & Medico-legal Stress

The literature review in the previous section revealed that medico-legal processes are a potential workplace stressor that may result in strain. This strain can cause immediate emotional distress affecting the well-being of the doctor. The longer-term consequences may include a negative impact on the quality of life, job-related outcomes as well as mental, physical and behavioural health. Social support in the workplace has been shown to be protective against occupational stress and adverse health outcomes (Lerner, Levine, Malspies & D'Agostino, 1994).

Current definitions and social support theory and how these have been applied to the stress of a medico-legal situation will be reviewed.

2.2.1 Social Support Definitions and Theory

Definitions

The definitions of social support are many and varied and there appears to be no consensus. Deelstra, Peeters, Schaufeli, Stroebe and Zijlstra (2003: 324) define received social support as 'actions of others that are helpful or intended to be helpful'. Rodriguez and Cohen (1998: 536) refer to social support as a process:

By which individuals manage the psychological and material resources available through their social networks to enhance their coping with stressful events, meet their social needs and achieve their goals.

Thoits (1986: 417) views social support as a source of coping assistance, whereby others assist the person in the stressful transaction to:

Change the situation, change the meaning of the situation, change his/her emotional reaction to the situation, or to change all three.

In this way, social support assists in eliminating or altering the stressful situation and helps to control the associated feelings of depression or anxiety.

Social Support Approaches

Social support is multidimensional with many constructs and measures. The two main approaches to social support appear to be either structural or functional. The *structural* approach to social support focuses on the networks and connections of the individual (Thoits, 1995: 64). This approach is referred to as the 'main effect' model as it proposes that social support will enhance individual well-being regardless of their stress (Rodriguez & Cohen, 1998: 537). Measurements of structural support usually

include the extent and interconnectedness of an individual's personal relationships (Lakey & Cohen, 2000: 32).

On the other hand, the *functional* approach to support involves a person being socially supportive towards another individual to fulfill a particular function, either perceived or actual (Rodriguez & Cohen, 1998: 536). This is sometimes known as the 'stress-buffering' model in that when the individual is exposed to stress, social support protects the person from any deleterious effects (Rodriguez & Cohen, 1998: 537). There is still no certainty regarding the 'stress-buffering' effect of social support as some studies show buffering effects while others do not, as this is largely due to the lack of consistency in the research methodology (Frese, 1999: 179; Beehr, Farmer, Glazer, Gudanowski & Nair, 2003: 221).

Functional support could include the provision of information and assistance to complete tasks, boosting the self-esteem of the person or by being emotionally supportive through listening. The functional perspective of social support is defined by the **types of support** and is usually broken into two types – emotional and instrumental support (House and Kahn, 1985; Thoits, 1992; Finfgeld-Connett, 2005).

Types of Social Support

According to Fenlason and Beehr (1994: 158) *Instrumental* support is giving:

Tangible assistance, such as physical assistance or aid in the form of advice or knowledge needed to complete a task or deal with a stressful situation.

In relation to medico-legal processes, an example of instrumental support would be legal counsel assisting the specialist to prepare for a court appearance.

The other type of social support is that of *emotional* support which is characterized by the actions of caring or listening sympathetically to another person. It could include humour, praying for someone, offering encouragement, or simply being present (Finfgeld-Connett, 2005: 5). In the context of medico-legal processes, emotional support could involve a colleague listening to a specialist talk about the circumstances regarding the complaint.

Sources of Social Support

Studies on the sources of social support for occupational stress are usually based on the main categories of supervisors, coworkers and family / friends (Hudek-Knezevic & Kardum, 2000: 195). For this study, these three categories will be adapted and used as the framework for measuring social support, with the additional category of '*other*'

(Frese 1999: 183). Examples of the 'other' category for this research would be the Specialist College / Association, counsellors, legal counsel and union representatives.

Fenlason and Beehr (1994: 173) found that the best source of social support for people experiencing workplace stress was from others in the workplace, especially the supervisor. In the NZ health sector, this would include specialist colleagues, Heads of Department (HODs) and nurses. Thoits (1986: 420) found that the most successful support-givers were those who had been through similar stressful situations, eg a specialist who has already experienced a medico-legal process.

Other research on physical illness suggests that, at times, the worst support-givers are 'family members who are themselves affected or threatened by the victim's life crisis' (Thoits, 1995: 65). This may apply to a medico-legal situation where the spouse is emotionally and financially affected by the situation.

Psychological adjustment to a stressful event may be affected by perceived support as this may bolster an individual's self-esteem and feelings of worth, as well as enhancing their feelings of social integration and attachment (Valentiner, Holahan & Moos, 1994: 1099). Studies have shown a weak correlation between measures of social support received and perceived social support. The current research emphasis is on *perceived* social support, as it has 'been found to be most closely linked to health and well-being' (McNally & Newman, 1999: 311). Perceived support is situational and behavioural involving interactions between individuals. For this research, *perceived* support will be measured in relation to a specific medico-legal situation.

Coping

Coping refers to those behaviours that eliminate/reduce the source of stress or minimize the emotions caused by a stressor and the subsequent impact on health. This is referred to as the *transactional approach* to stress and coping and is situation-specific, such that the coping strategies are analysed in response to a specific stressful transaction, eg a bereavement (Thoits, 1995). This transactional approach will be used as a theoretical model for this research.

Lazarus & Folkman (1984) identify two major categories of coping strategies. Firstly, '*problem-focused*' strategies for minimizing the actual stressor and, secondly, '*emotion-focused*' strategies for decreasing the emotional response triggered by the stressor. These two coping strategies are usually used together in dealing with a particular stressor (Thoits, 1995: 60).

Problem-focused coping strategies include developing, implementing and evaluating an action plan to deal with the stressor and manage the stressful situation. Emotion-focused coping strategies focus on expressing emotions, changing attitudes or avoidance / denial of the emotions caused by the stressor. In relation to medical errors and complaints, both types of coping strategies are probably required, however there is no NZ literature to show the coping strategies used by medical specialists.

The other model of stress and coping is the *structural approach* where a particular style of coping is preferred and this is considered to be a function of disposition or personality type (Hudek-Knezevic & Kardum, 2000: 192).

2.2.2 Optimal Matching Theory of Social Support

Cutrona (1990) highlights the importance of offering social support that is specific to or matches the individual's need and situation, as inappropriate support may be 'distressing'. In this 'optimal matching theory' of support, Cutrona (1990: 8) maintains that the most influential dimension is of the *controllability* of the stressors. If a stressful situation is perceived to be controllable, then the most appropriate actions would be 'problem-focused coping' strategies requiring 'instrumental support', including information and tangible assistance (Cutrona, 1990: 8). Alternatively, if the stressful situation is perceived to be uncontrollable, then nothing can be done to change the course of events or the consequences.

When stressful events are uncontrollable, Cutrona (1990: 9) predicts that the most optimal match for minimising negative emotional reactions will be emotional support, as when stressors are perceived to be uncontrollable, they are thought to be more distressing (Valentiner et al., 1994; Thoits, 1995). The researcher could find no literature on medico-legal stress in relation to the *controllability* of this event / situation.

Another important aspect of Cutrona's (1990) 'optimal matching theory' is that of 'esteem support' whereby the individual is reassured that they have the competence and ability to cope with the stressful situation. Esteem support may be important for specialists enduring a medico-legal process, to mitigate the feelings of 'shame and guilt' (Charles, 1988; Cunningham, 2004; Nash, 2004) as they have to continue working. For the purpose of this study, esteem support was included with emotional support in the questionnaire.

In the 'optimal matching theory', another important dimension for matching social support to stress, besides controllability, is that of the *life domain*. Social support offered should also match the nature of the loss in the 'life domains' of assets,

relationships, achievement, or social role (Cutrona 1990: 8). Relating this to the medico-legal situation, specialists could potentially face a loss in the 'life domains' of achievement (their work, income and assets) and their social role (how they are viewed by their colleagues and society) would be negatively affected. Thus, in addition to instrumental and emotional support, specialists would require *esteem support* and *network support* during a stressful medico-legal process. Sources of esteem support could be colleagues, management and nurses, while network support could be from the specialist Colleges / Associations.

Applying the 'optimal matching theory' would mean that if specialists receive the right **type** of support (emotional / instrumental) from the right **source** (family / colleagues / management / other), then their level of stress should diminish during a medico-legal process.

Designing studies that measure social support highlights the difficulty of integrating results and methodology for this topic 'because of the multifaceted nature of the construct and the lack of consensus of how to measure it' (Hutchinson, 1999:1520).

2.2.3 Social Support and Medico-legal Processes

Overseas literature was reviewed to find the **types** and **sources** of social support that have been applied to a medico-legal process to buffer or moderate the effects of stress on medical practitioners.

In her paper 'Coping with a medical practice suit', Charles (2001: 56) outlines strategies for physicians to use when accused of malpractice and, interestingly, notes from her clinical psychiatric practice that physicians in general are:

Self-critical and, therefore, have a tendency to doubt themselves, be vulnerable to feelings of guilt, and to possess an exaggerated sense of responsibility.

This type of personality, combined with the aspect of tort law in the USA that demands that fault must be established, becomes a personal assault on the physician's integrity, resulting in stress symptoms.

Charles (2000: 56) describes the pervading feeling of being out of control throughout the litigation process and that regaining 'mastery' is essential to the coping process. Essentially, Charles (2001: 57) categorises the required coping strategies into three major areas of: social support, restoring mastery and self-esteem, and changing the meaning of the event. Fundamental to the success of these coping strategies is understanding the litigation process as well as the psychological / emotional responses

that the physician may experience throughout the lengthy process. A key point made by Charles (2001: 55) was that introducing:

Rapid interventions aimed at reducing the effects of stress will decrease disability, restore self-esteem, diminish risk for future claims, and enable physicians to be “good” defendants.

It thus appears that Charles (2001) categorises a litigation episode as an acute stressor or critical incident.

Brazeau (2001: 41) highlights the different stages in a litigation process, including the psychological responses or feelings that the physician may experience at each stage. These feelings include ‘shock, denial, shame, loss of control, anxiety, anger, depression or physical symptoms’. These may still be experienced long after the litigation process has been completed. According to Brazeau (2001: 43):

As long as two years after their lawsuits, physicians have reported experiencing more job strain, more shame and more doubt than they did before their lawsuits, although these feelings are less intense than during the lawsuit itself.

Brazeau further advises physicians to take an active role in malpractice prevention as a constructive way of dealing with disciplinary complaints.

Louise Andrew, a medico-legal consultant and Associate Director of the Centre for Professional Well-being in the USA, states that during a medico-legal process, support systems may not be available, as colleagues who have not been through such a process cannot offer empathy and the hospital / department may be adversarial. In addition, friends and family may think that medico-legal processes only occur when the doctor has actually made a mistake (<http://www.emedicine.com/emag/topic60.htm> 2005).

Andrew (2005) further emphasises the importance of physicians sharing their feelings with family and friends, as well as having privileged communication with a counsellor/psychologist or minister. She suggests that physicians work closely with legal counsel and proactively participate in all aspects of the litigation process. A positive outcome of the medico-legal process could be the ‘learning’ that arises from such an experience, whereby the doctor may improve their behaviour, communication, coping skills and, subsequently, their practice of medicine.

The Committee on Professional Liability of the American College of Obstetricians and Gynecologists (ACOG, 2000: 65) suggests that defendant physicians may need help from peers and other professionals to cope with their stress and they should look at the option of support groups to assist themselves and their families.

Both Charles (2001: 57) and Brazeau (2001: 43) emphasise that physicians should seek the help of appropriate health professionals if they feel over-whelmed by the stress of the experience, as well as maintaining an active life balance. At this stage, there is no literature in New Zealand that would indicate whether or not counselling is made available to specialists by the hospitals, or whether they avail themselves of private counselling during a medico-legal process. The Medical Assurance Society has recently provided access to counselling for their members to deal with litigation stress.

Reineck (1988: 285) highlights the support strategies available for American physicians' families going through a litigation process. These include an American Medical Association auxiliary booklet prepared from a spouse's viewpoint, as well as tapes and videos. The booklet lists support programmes available in different geographical areas for physicians and their families, and includes physicians willing to act in a support capacity. No comparable resources could be found for NZ medical specialists, although the NZ Dental Association has produced a comprehensive publication for their members called 'Self-Care for Dentists'.

PTSD and Social Support

As discussed in the first section, there is some evidence that a medico-legal situation may involve an element of trauma and symptoms of PTSD, necessitating more specialised support interventions. Ballenger, Davidson, Lecrubier and Nutt (2001: 61) identify three important components for the management of PTSD. The first is education to inform the person that they will experience specific emotions, and how these should be handled; secondly, psychosocial support or counselling should be provided, if necessary, within two weeks; and, finally, cognitive-behavioural treatment initiated, focusing on the specific traumatic event.

Haslam and Mallon (2003: 278) undertook an investigation of PTSD symptoms among 31 firefighters in the Midlands, United Kingdom and the availability of social support. When these firefighters were asked whom they relied on for emotional support:

Most said that they relied on their partners, because they felt that they were understanding while others chose their partners because they did not want their colleagues to know how they felt (Haslam and Mallon, 2003: 282).

Some of the participants relied on emotional support from their colleagues as they either did not have a partner or they believed their colleagues could relate better to the incident. It is not known whether the spouses/partners of specialists are as important for

emotional support during a medico-legal process. When asked about official support within the fire service, service Chaplains and counselling services were mentioned. However, according to Haslam and Mallon (2003: 282), many:

Felt unable to seek support from within the brigade due to the macho image associated with the job. They felt that asking for support was admitting to failure and even prompted worries that it may lead to sacking.

From this preliminary study, the authors suggest that the fire service should try to ensure that formal support systems are seen as socially acceptable by the fire-fighters, and suggested that an external support network be put in place such that the confidentiality of the firefighters could be assured. This finding may be applicable to similar situations for NZ medical specialists, as it is not known whether or not counselling confidentiality is an issue in similar situations. Overall, the findings of Haslam and Mallon (2003) suggest that firefighters are at risk of PTSD symptoms but that this may be minimized by provision of adequate support networks.

2.2.4 Gender and Social Support

In a study on undergraduate students coping with a specific situational stressor, Carver, Scheier and Weintraub (1989: 278) found that:

Men reported more alcohol use in the situation they were focusing on than women, and women reported seeking social support for emotional reasons more than did men.

Interestingly, another study by Beehr, Farmer, Glazer, Gudanowski and Nair (2003: 220) found the important variable was not gender but rather the difference in **gender role** in moderating the relationship between social support and strain:

Such that more feminine people react strongly and positively to social support than more masculine people do.

A cross-sectional study of 161 Canadian physicians found that women in the *medical* speciality 'felt more comfortable and reported fewer somatic symptoms than women in *surgical* specialities' (Bergman, Ahmad & Stewart 2003: 177). In addition, the women surgeons reported having a heavy workload, less work satisfaction and less support from their colleagues when stressed. Surgical specialities are traditionally a more male-dominated speciality, which could account for some of this variance. Bergman et al. (2003: 176) further maintain that the differences explaining physical symptoms between the sexes:

Suggest different strategies for women and men to reduce their levels of stress, thereby enabling physicians to provide care without prejudicing their own health.

The results of a study by Evans and Steptoe (2002: 481) suggest that:

When men and women occupy jobs in which they are in a cultural and numerical minority, there may be adverse effects that are gender-specific.

In this study of accountants and nurses, it was found that more work problems were experienced by female than male accountants; and by male rather than female nurses. Furthermore, male nurses had the highest incidence of sick leave, while female accountants had the highest incidence of anxiety.

In NZ, female specialists constitute 21% of the 2873 specialists. However, in the surgical specialities, which are traditionally dominated by the male gender, females constitute a lower percentage as is shown by Table 2.1.

Table 2.1: Percentage of Women in NZ Surgical Specialities

Surgical Specialities	Percent Women
Cardiothoracic Surgery	6 %
General Surgery	4 %
Neurosurgery	0 %
Obstetrics & Gynaecology	35 %
Otolaryngology Head & Neck Surgery	3 %
Plastic & Reconstructive Surgery	7 %
Vascular Surgery	8 %
Urology Surgery	3 %
Paediatric Surgery	31 %
Orthopaedic Surgery	4 %
Ophthalmology	13 %

Source: Medical Council of NZ – Workforce Analysis 2003

It is unknown whether or not there are gender differences in NZ specialist requirements for social support during a medico-legal process.

The literature review by Nash, Tennant and Walton (2004: 28) highlights the fact that the support required for medical practitioners is multi-faceted, as the impact of a medico-legal process is also affected by the attitude and culture of the society in which the doctor is practising.

In addition to spousal support, the literature review highlights the importance of collegial, hospital and legal support to assist doctors in managing the stress arising from medico-legal processes.

2.2.5 Collegial Support

Thoits (1986: 67) has found that the most effective support-givers are those that are similar to, or have successfully been through, the same stressful experience as the individual concerned. This would indicate that colleagues, in particular those that have been through medico-legal processes themselves, would be the most effective in providing social support for other specialists in the same situation.

Newman (1996: 2841) suggested that collegial support is a useful problem-focused coping strategy, whereby a mistake or complaint is discussed with colleagues. Likewise, professional validation and reassurance may be a useful emotional-focused coping strategy to deal with the feelings of shame, guilt and fear. Interestingly, in this study all the participant physicians had recognized their colleague's pain and need for support, however only nine (32%) 'would have unconditionally offered support' (Newman, 1996: 2841).

Parker and Lawton (2003: 455) indicate that collegial support is helpful in dealing with adverse incidents, however anecdotal evidence suggests that it is not forthcoming. Likewise, Redinbaugh et al. (2003: 189) found that a coping strategy for dealing with a patient's death was receiving emotional support from colleagues, however '35% felt that their needs had gone unmet'.

Dornhorst, Cripps, Goodyear, Marshall, Waters and Boddy (2005: 49) found that a major source of dissatisfaction for NHS specialists was the lack of support offered by the Royal Colleges, as well as a lack of recognition and respect from colleagues. No similar research could be found for NZ and it is not known how important collegial support and support from the Royal Colleges is to specialist undergoing a medico-legal process.

Collegial support during a medico-legal process may fulfill the hypothesis of Cutrona (1990: 8) that emotional and network support may result in a sense of control and self-confidence, which should assist effective coping behaviour. When the threat to self-esteem is high, less social support might be sought as the specialist may know and accept the fact of having made a clinical error.

Collegial work relationships may, however, also be a source of stress, especially where there is conflict and active dislike (Henderson & Argyle, 1985: 230). This may occur in healthcare specialities, both within specialist departments (eg surgical), or between departments (eg anaesthetics and surgical), or in the case of medico-legal processes where a number of specialists are involved.

A social support process model by Finfgeld-Conett (2005: 5) identifies antecedents that must be in place before emotional and instrumental support is brought into play to improve stress, and these are context specific. These antecedents include (Finfgeld-Conett, 2005: 6):

A need or a willingness to accept social support; a social network of unconditionally accepting and trustworthy type /group of people; and a similar social climate of shared experiences and common frame of reference.

Some of these antecedents may not be present for immigrant doctors who have not had the time to build up extensive networks inside and outside their medical speciality or social environment.

New Zealand has a large number of overseas trained specialists (36%) working in the health system who have not been through New Zealand universities or specialist training programmes (Medical Council of NZ, 2003: 1). As a result, they may not have built up the same support networks within the medical fraternity. The fact that social support can act as a stress-buffering process may place ‘overseas trained’ specialists at a disadvantage when coping with a disciplinary complaint.

The researcher could find no official publications by the specialist Colleges or Medical Association to assist specialists going through a medico-legal process. There appears to be no national, structured system of collegial support.

2.2.6 Hospital Management Support

During a litigation process, the clinicians in the Bark, Vincent, Olivieri and Jones (1997: 11) study emphasized the importance of support from their family, friends and colleagues as well as other professionals. There were angry comments and dissatisfaction regarding the lack of personal support from hospital management, with ‘descriptions of unfair criticism, judgment and witch hunting’. Specifically, ‘management was criticized for a lack awareness of the effect of litigation on doctors and for failing to consider doctors’ needs’ (Bark et al., 1997: 11). In NZ hospitals, managers are not always medically trained, although it is usual for a Clinical Director to be appointed. Heads of Departments (HODS) are usually specialists who are allocated a percentage of their time to complete administrative tasks.

A study on NZ Orthopaedic and General Surgeons’ experiences with complaints to the HDC by Tapper, Malcolm and Frizelle (2004: 978) found that:

Hospital management was supportive in only 34% of cases, neutral in 52% of cases, and difficult in 14% of cases.

This is interesting when over 50% of breach reports of the Code of Rights involve public hospitals and systems (HDC Annual Report, 2003: 28).

According to Thoits (1986: 420), empathy seems to be the key to matching social support with a stressful situation, while non-empathetic and dissimilar assistance may increase an individual's feelings of distress. There may not be much empathy between management and clinicians, as they tend to have different occupational cultures and values (Kaissi, 2005: 170). For both teachers and nurses, Cutrona and Russell (1987: 56) found that the 'reassurance of worth appears to be a crucial element in preventing burnout' and that the most effective source of work-related support was from their supervisor. For medical specialists, this may be applicable if the 'supervisor' or Head of Department is another clinical specialist.

Imposed instrumental support at work may have a negative impact on self-esteem and reduce freedom of choice, causing an individual to have feelings of incompetence, thereby inducing further feelings of distress (Deelstra, Peters, Schaufeli, Stroebe, Zijlstra & Van Dornen, 2003:325). As identified by earlier research, medico-legal processes negatively impact on a doctor's self-esteem, causing feelings of guilt and shame (Charles, 1984; Cunningham, 2004; and Nash, 2004). Thus, any stress management interventions should not be **imposed** but should be made available through appropriate channels in consultation with the professional Colleges, doctors' union and specialists themselves.

2.2.7 Legal Support

In the study by Bark et al. (1997: 11), 22% of the doctors surveyed wanted more information and training regarding the legal process and the realities of being in a court or 'hearing' situation. Likewise, Nash, Tennant and Walton (2004: 281) conclude that greater efforts should be made to firstly address a doctor's fear of medico-legal processes; as well as changing the expectation that doctors have to be infallible or that a medical mistake comes from a lack of incentive to take appropriate care. They advocate further research into medico-legal processes and its impact on doctors so that medical and postgraduate students in the future are appropriately educated and equipped (Nash et al., 2004: 281).

In NZ, medical defense is provided by one insurance agency, the Medical Protection Society (MPS), administered by the NZ Medical Association. A firm of barristers and solicitors is then contracted by the MPS to act for their member specialists during a medico-legal process. Interestingly, it is unknown whether or not NZ

specialists are satisfied with the legal support that they receive during a medico-legal process.

2.2.8 Research Hypotheses for Social Support

Appropriate social support along with the appraisal of 'threat' and 'controllability' are important variables in the stressor-strain and optimal matching approaches to occupational stress. Overseas' literature has shown that partner, collegial and organisational support are necessary to minimise the impact of medico-legal processes. Based on review of the literature re social support and medico-legal stress, the following hypotheses have been developed:

Hypothesis 11:

The importance of emotional support will be negatively related to the control over the outcome of the medico-legal process.

Hypothesis 12:

The importance of instrumental support will be positively related to the perceived controllability over the outcome of the process.

Hypothesis 13:

Specialists will place higher importance on, and be more satisfied with, collegial support than on organisational support during a medico-legal process.

Hypothesis 14:

Lower levels of distress are positively related with the gap between the importance – satisfaction of emotional and instrumental support

2.3 Section Three: Human Resource Strategies to Manage Medico-legal Stress

2.3.1 Introduction

Under the NZ Health and Safety in Employment Amendment Act 2002, employers must take all 'practicable' steps to manage workplace hazards, including occupational stress. Any hazards/stressors that cannot be eliminated or isolated must be minimized. Complete elimination of medico-legal processes in a democratic country is virtually impossible. Employers, however, have an obligation to proactively manage these processes and monitor the impacts of this stressor to prevent 'harm' occurring to their employees. Any interventions to manage litigation stress must protect the privacy of the individual specialist.

In Britain, Firth-Cozens (2003: 670) has shown that 28% of doctors and health professionals are above the threshold levels of stress, compared to around 18% in the general working public. The practice of medicine has the potential to cause chronic stress. In addition, making a mistake and the resultant medico-legal process have been shown to be a major stressor to doctors. In a self-report and cross-sectional study of 225 doctors, one third of them reported delivering lower standards of patient care primarily as a result of stress (Firth-Cozens & Greenhalgh, 1997:1019). If these figures were applicable to NZ, then alleviating the occupational stress of doctors would have a positive flow-on effect to patient care, as well as ensuring that the DHBs fulfill legislative employer obligations.

The literature reviewed in the previous section showed that appropriate social support has positive associations with health and well-being. However, Deelstra et al. (2003: 329) have shown that **imposed** instrumental support at work may have negative effects and cause more distress, especially when there is a threat to self-esteem.

The practice of medicine in itself is known to be stressful. The addition of stress from a medico-legal process could place a specialist under such strain that it will compromise their own well-being and the way they work. The question is: *What interventions would be useful to support the individual specialist to minimise the stress associated with medico-legal processes?* To find answers to this question firstly requires a literature review of occupational stress management theory in general and then, secondly, reviewing how this has been applied to stress caused by medico-legal processes.

2.3.2 Occupational Stress Management

Interventions in stress management have been classified by Dollard (2001:30) into primary, secondary or tertiary approaches. Primary strategies are aimed at preventing workplace stress. Secondary interventions are usually aimed at the individual to change their reaction to a particular stressor. Tertiary interventions are targeted at the individual to treat the symptoms of stress. Within each of these three approaches Dollard (2001:30) identifies three levels of intervention, namely: the organisation, the individual-organisation interface and the individual level.

There have been many studies on the causes of work stress, individual appraisal and coping in order to explain individual reactions to work stress. However, Caulfield, Changh, Dollard and Elshaug (2004:152) maintain that the dominant view is that:

Work stress and the resulting mental health outcomes are more strongly related to job factors or aspects of the work environment than to personal or biographical factors – that is, work stress depends primarily on the way that jobs are constructed, constituted and managed.

In the meta-analysis on occupational stress interventions in Australia since 1993, conducted by Caulfield et al. (2004: 155), only six studies were found to match their criteria of evidence-based intervention. These six studies were all from the public sector, of which five were individually focused and only one was organisational-based. According to Caulfield et al. (2004:155), it appears that in Australia:

Work stress programs are predominantly reactive (secondary or tertiary approaches) and tailored to the individual.

This could suggest that the focus is on stress management interventions (SMIs) to lower the **effects** of workplace stressors, rather than a focus on firstly **reducing the stressors**. On the basis of these six studies, Caulfield et al. (2004:161) state that:

Seminar-based programs appear to procure better outcomes than those voluntary, individually focused intervention studies where the focus is on teaching stress management skills.

Furthermore, they highlighted the need for longitudinal research with the use of more objective criteria to validate the impact of stress management interventions over the long term (Caulfield et al., 2004: 164).

A meta-analysis of 48 studies by Van der Klink, Schene and van Dijk (2001: 270) on the effectiveness of occupational stress-reducing interventions categorised four main types of interventions:

Cognitive-behavioral approaches; relaxation techniques; multimodal interventions; and organisation-focused interventions.

The first three intervention types were focused on the individual and the fourth focused on the organisation. Each of these interventions was then analysed according to the following outcome variables: quality of work-life, psychologic resources, physiology, complaints (eg stress, burnout) and absenteeism (Van der Klink et al., 2001:271). Importantly, this meta-analysis provided reliable evidence that employees do benefit from stress-reducing interventions. In addition, it was found that:

Cognitive-behavioral interventions were significantly more effective than relaxation techniques ($P < .005$), while there was no significant effect size differences between relaxation and multimodal interventions.

This paucity of quantitative research on organisation-focused stress interventions and the controlled evaluation of interventions seem to be a common problem. An examination of workplace stress literature highlights the large differences and inconsistencies of research methods and results, including the difficulty of obtaining relevant matching organisational and personal data (Morrison & Payne, 2003: 131; and Giga, Noblek, Faragher & Cooper, 2003: 158).

One of the difficulties of interpreting workplace stress research is due to the 'lack of conceptual clarity with regard to what should be examined' (Morrison and Payne, 2003:131). They suggest that, in addition to social support, '*context effects*' of industry, occupation, workplace and supervisory behaviour are important. Using such a multilevel approach, including the contextual effects of stress management, could be most relevant in planning and selecting medico-legal stress interventions.

A conceptual framework for managing work stress interventions that incorporates the multiple factors from diverse disciplines was designed by Israel, Baker Goldenhar, Heaney and Schurman (1996: 263). They identify five levels that need to be targeted to achieve comprehensive workplace stress intervention. These include the following: intrapersonal, interpersonal, organisational, community and public policy (Israel, Baker, Goldenhar, Heaney & Schurman, 1996: 280).

A meta-analysis by Giga and Faragher (2003) reviewed 74 international SMIs studies between 1990 and 2001 to evaluate these intervention studies for evidence of good practice. Of these reviewed studies, 70% included a form of individual SMIs, while 55% included some components dealing with the individual / organisational interface and 40% of the programmes were specifically targeted at the organisational level (Giga & Faragher, 2003: 159). The researchers further noted that individual person-directed SMIs would be unlikely to have long-term benefits for employee well-

being unless current organisational stressors were reduced or prevented (Giga & Faragher, 2003: 163). This principle would be applicable to the management of medico-legal stress because providing a specialist with *individual* SMIs while expecting them to continue their daily high pressure work (perhaps without further social support) would probably not have effective long-term outcomes for the stressed specialist.

The SMIs identified at the *organisational* level in the Giga and Faragher (2003: 159) review included selection and placement, training/education programmes, physical/environmental characteristics of certain occupations, communication systems and work redesign/restructuring. Programmes that targeted the interface between the *individual and the organisational* level included ensuring the person-environment fit, co-worker support groups, clarification of role issues, involvement and empowerment. The *individual level* programmes included meditation, relaxation, biofeedback, cognitive-behavioural therapy, exercise, employee assistance programmes (EAP) and time management (Giga & Faragher, 2003: 159). The reviewers noted that most of the effort in stress intervention management is targeted at the tertiary individual level and not at stress **prevention**, resulting in the predominant implication that work stress is about an individual's weakness or incompetence.

Giga and Faragher (2003: 159) highlight the fact that organisations usually have many interventions being developed by people from different disciplinary backgrounds (eg psychology, health and safety). They suggest a more comprehensive, multi-disciplinary and integrated approach to occupational stress management using a conceptual framework. A joint approach by union and employees coupled with management commitment is a key component in the success of comprehensive SMIs (Israel et al., 1996: 280; Giga & Faragher, 2003: 163). This concept could be very relevant to the medico-legal process in NZ where the medical specialists have multiple allegiances and loyalties.

A review of current trends for the management of work stress in the USA was undertaken by Murphy and Sauter (2003). In particular, they noted that research has shown that in the healthcare industry, healthcare workers are subjected to many work stressors and that they have had work stress aggravated by many restructurings. In addition, studies have shown a link between work overload and work stress, with increased medical errors and yet Murphy and Sauter (2003: 155) state that:

There seems to be little being done to reduce workload directly, at least in terms of efforts that have appeared in the peer-reviewed scientific literature.

Restructuring of healthcare has been occurring in NZ over the past 15 years, similar to that of overseas countries, such that 'control' has shifted from the clinicians to healthcare managers. At the same time, there have been increased demands for accountability, with the likelihood of increased levels of stress for medical specialists.

In an analysis of the current knowledge of stress, coping and social support processes, Thoits (1995: 70) identifies four major findings that have policy implications for the management of stress in general, and to medico-legal stress of specialists in particular:

1. Stressful events and chronic difficulties increase the probability of psychological and physical illness.
2. Perceived personal control over the event / circumstances reduces psychological symptoms directly and buffers the negative psychological effects of strains.
3. Social networks and integration lowers the chances of illness and early death.
4. Perceived social support directly decreases psychological symptoms while buffering the negative impacts of strains.

2.3.3 Medico-legal Stress Management

Although medico-legal stress is context and situation specific, it is nevertheless a complex, multi-faceted topic. Apart from specific studies by Cunningham (2003 & 2004) and Tapper et al. (2004), all the research on this topic is from countries other than New Zealand.

Four studies of 67 hospitals and 12,000 employees in Minnesota found a 'moderate to strong relationship between malpractice risk and a stressful workplace' (Jones, Barge, Steffy, Fay, Kunz & Wuebker, 1988: 733). Those hospital departments that had record levels of malpractice also reported higher levels of on-the-job stress. However, causality could not be proved, as although stress may lead to a medical malpractice, conversely, a hospital that is facing litigation may also be a stressful place to work in. Jones et al. (1988: 734) showed there was a significant drop in average monthly medication errors as a result of an organisation-wide stress management intervention (SMI). In addition, those 22 hospitals that did implement the organisation-wide SMI had significantly fewer litigation claims compared to those 22 hospitals that did not.

Minimising stress and psychological disorders of doctors is an important part of risk management strategy for hospitals to reduce the potential for medical adverse events, according to Firth-Cozens (2001: 218). In addition to the individual factors that can cause stress, there are organisational stressors that play a role in the risk of

healthcare delivery including: long working hours, shift work, hospital culture, poor teamwork, as well as patient complaints. Firth-Cozens (2001: 219) outlines a systems approach to show how these organisational stressors, the doctor's personality and any doctor impairments all impact on patient care and, subsequently, cause a complaint/litigation.

Further evidence of the role of work overload was found in the study of 1133 UK consultants by Ramirez, Graham, Richards, Cull and Gregory (1996: 726) whereby:

Work overload made the greatest contribution to overall stress, followed by feeling poorly managed and resourced, then managerial responsibilities, and lastly dealing with patients' suffering.

Work overload may become even more of an issue when a specialist receives a complaint and then has to deal with the extra paperwork and emotional impacts of a medico-legal process. But only 20% of the participating consultants found the *threat* of being sued to be a stress factor.

According to Firth-Cozens (2001: 220), interventions for stress management of doctors dealing with complaints and litigation should include: improving communication, improving management style, counselling and therapy, support for individuals and education on coping strategies. These interventions should be subject to rigorous evaluation.

Doctors are apparently reluctant to seek medical advice for their own health problems. According to a study on Australian doctors 44% of doctors had chronic health problems and about 50% did not have their own General Practitioner (Kay, Mitchell & Del Mar, 2004: 368). The percentage of medical specialists in NZ with an established relationship with a GP is unknown. Specialists may find it difficult to discuss any suffering from medico-legal stress with their GP as the GPs are also a large referral source for the medical specialist in both the public and private healthcare system. As a result, medical intervention for stress may not be sourced until the specialist is really not coping.

The overseas literature that has been reviewed refers to six key interventions that may be useful in medico-legal stress management. These are counselling and employment Assistance Programmes, cognitive reframing, support committees, knowledge of the medico-legal process, communication and disputes resolution and leadership. These will now be reviewed separately.

Counselling and Employee Assistance Programmes (EAP)

The UK Court of Appeal in the case of *Hatton v Sutherland* considered that unless unreasonable demands were placed on an employee, an employer would be unlikely to be found in breach of duty if they provided confidential counselling services (Employer & Manufacturers Association, 2003: 31). However, a review of EAPs by Kirk & Brown (2003: 142) could not provide a complete endorsement for the evidence of EAP interventions in the management of workplace stress. The researchers showed that employees had perceptions of improved well-being, however little evidence was at the organisational level to show improved productivity or satisfaction (Kirk & Brown, 2003: 142). Furthermore, this study highlighted the perceived issue of confidentiality, where the providers of the EAP intervention were internal to the organisation.

In a study on Canadian police it was found that few police officers accessed counselling offered by the Employee Assistance Programme during public enquiries into critical incidents, as they feared the counselling was not truly confidential (Regehr, Johanis, Dimitropoulos, Bartram & Hope, 2003: 392).

Thoits (1986: 420) noted that shame or embarrassment regarding a personal failure reduces the tendency for individuals to reach out to others and to request coping assistance in case of rejection or disapproval. In medico-legal situations where a specialist is experiencing feelings of shame and guilt (Charles, 1984; Brazeau, 2001; Cunningham, 2004), it is unlikely that the specialist will seek out collegial / managerial support or counselling without feeling that there is empathetic understanding. Empathy from similar people, such that any negative emotional reactions are acknowledged as valid and normal in the circumstance, may enable a specialist to more readily access counselling.

The NZ Medical Assurance Society has initiated a helpline and counselling service for member doctors, as insurance claims for stress has doubled in the past five years as a result of the patient complaints' process (Medical Assurance Society, 2005).

Cognitive Reframing

Propp (2005:508) emphasized that doctors 'view a less-than-ideal clinical outcome as a personal failure'. This was furthered highlighted in an 11-year longitudinal study of medical students by Firth-Cozens (2001:217) which found that a strong predictor of subsequent depression and stress were those students with highly self-critical personalities. Firth-Cozens (2001: 220) suggests that cognitive restructuring is a way of reducing self-criticism, especially in relation to medical adverse events.

Likewise, Charles (2001: 59) states that an interventional aim for doctors suffering from medical malpractice stress is to change the meaning of the event with cognitive therapy.

Support Committees

The University of Ottawa medical faculty set up a task force on 'Faculty Stress' to develop an early detection and intervention programme for academic clinicians. A key finding from their initiative was that many faculty members knew that some of their colleagues were in distress, however MacDonald and Davidson (2000:736) state:

Most did not feel comfortable about intervening, owing to a lack of knowledge about what to do and how, a lack of awareness of available support resources and concerns about privacy.

The same situation may apply to when clinicians are under litigation stress.

To increase the awareness of stress / wellness and to provide a personal support programme for those doctors in distress, the University of Ottawa medical faculty set a '*Neighbourhood Watch and Connector Programme*' where five specialist psychiatrists acted as confidential 'connectors' for staff to talk to if they were concerned about a colleague (MacDonald and Davidson, 2000: 737).

A further example of physician support is the HealthTexas Provider Network '*Malpractice Support Committee*' for their physicians to proactively provide emotional support for sued doctors if they wished to access it. Under Texas state law, they were able to provide emotional support for peers including committee meetings and records that were confidential and not subject to court subpoena. Committee members were trained to take on the role of directly contacting a sued physician to offer support as a peer and a friend. They attempt to match the gender and area of medicine to that of the sued colleague, and most of the committee members have themselves been through a litigation process. Importantly, the support person does not make judgments or peer review the case, instead they assist by providing insight into the emotional and professional impacts of the litigation process, providing encouragement during the difficult stages. They provide a booklet and tapes on what to expect during the litigation process and then they periodically contact the sued doctor (Couch & Thiebaud, 2002: 32).

The feedback on this *Malpractice Support Committee* has been positive, especially from the point of view that the sued doctor feels reassured by learning that their own reaction is normal, that they are still a valued member of the practice/organisation and that their feelings and reactions are a typical part of the medico-legal process (Couch & Thiebaud, 2002:33). One of the most widely used social support

interventions is that of support groups (Rodriguez & Cohen, 1998: 541), however the researcher could find no literature on NZ medico-legal support committees.

Knowledge of the Medico-legal Process

One of the key techniques for reducing distress during a medico-legal process is to be knowledgeable about the process (Charles, 1988; Gorney, 2002; Kelly & Gebhart, 2004). Each key step in a litigation process involves taking appropriate actions, eg: making sure that the patient's records are secured and not tampered with; answering all queries promptly and keeping a separate file for all medico-legal communications (Nichols, 2003: 14-18). For a successful medico-legal defense, Weinstein (2000: 127) highlights that:

There must be meticulously documented medical records; a competent attorney or legal representation; and a physician that gives a solid performance. A key to a positive outcome is that the physician must completely understand the process and be a willing, active and knowledgeable participant.

In the qualitative study by Regehr (2003: 7) of emergency responders subjected to public inquiries, a common suggestion was the need for education in the legal process including coaching, role-playing and watching a testimony on tape. It was also suggested that this type of education be offered to those employees who were acting as witnesses in the proceedings. Furthermore, this research by Regehr (2003: 7) highlights the need for proactive assistance from the employer including:

Attendance at hearings by a peer, mentor and most importantly signals of support and recognition by management and supervisory staff.

Unfortunately, the researcher was not able to access any documentation that specifically assists/supports specialists in NZ to prepare for a medico-legal process or public inquiry.

Communication & Disputes Resolution

A study of 353 physicians and 18,995 patient satisfaction responses from a large teaching hospital in the USA by Stelfox, Gandhi, Orav & Gustafson (2005: 1129) found that the majority of the complaints from patients were:

Related to communication issues (361), as opposed to patient care issues (122).

In other studies, physician's interpersonal and communication skills have also been linked to a patient's decisions to initiate malpractice claims (Levinson, Roter, Mullooly, Dull & Frankel, 1997; Hickson, Clayton, Githens & Sloan, 1992; Bark et al. 1997; Adamson, Bunch, Baldwin & Oppenberg, 2000). Furthermore, Ramirez et al. (1996:

727) found that only 45% of the consultants perceived that they had received adequate training in communication skills, and only 22% in management skills, and these consultants appeared to be at increased risk of burnout.

It may be then that these same factors of inadequate interpersonal and communication skill will hinder a doctor going through a medico-legal process and result in a more detrimental outcome. Indeed, coaching in communication may assist the doctor through the litigation process as well as having a positive effect on the doctor-patient relationship.

In an analysis of 500 medico-legal claims brought against British Obstetricians and Gynaecologists, it was found that 46% of the claims were misguided allegations ‘with very little basis for litigation’ and resulted in a waste of healthcare resources and time (B-Lynch, Coker & Dua, 1996: 1236). The authors concluded that as the litigation process is stressful for all concerned, a more efficient management of adverse events is called for whereby doctors ‘become more actively involved in managing patient’s complaints from the outset’ (B-Lynch et al., 1996: 1241). This would require an investment in the training and education of doctors in communication and a better understanding and more use of mediation as an alternative form of dispute resolution.

Researchers on 368 Norwegian doctors (Aasland & Forde, 2005:16) found that an increasing acceptance of criticism from colleagues in regard to daily medical practice (peer review) assists a doctor’s ability to positively deal with serious patient injury and adverse events, while providing collegial support. Aasland & Forde (2005:17) maintain that this should start in medical school and that acceptance of criticism may:

Also lead to greater acceptance of the fact that to err is human and not necessarily a sign of professional impairment.

Leadership

The importance of leadership from the healthcare organisations, regulatory bodies and medical professional associations is emphasized by Kalra (2004: 1068) for improving the disclosure of errors in healthcare and the supporting of physicians in any subsequent emotional issues. Furthermore, Gorney (2002: 28) maintains that the physician executive plays a very important role in supporting the sued doctor and guiding them through the litigation process, as sued physicians often have a feeling of powerlessness. In addition, they are reliant on their legal representation, which may heighten anxiety, feelings of dependency and loss of control. In NZ, there is no

research that reflects the importance of support from the Head of Department (HOD) or Clinical Director for specialists working through a medico-legal process.

Gorney (2002: 28) offers four guidelines to help doctors cope with being sued: encourage them to learn and understand the litigation process; regain control over the response to the claim; reassess schedules and activities to reduce stress; and become involved in or contribute to activities that assist the problem of professional liability. He also suggests that the doctor has more 'structured leisure time' and 'engage in aggressive aerobic sports as a socially acceptable way of venting tension and anger' (Gorney, 2002: 29).

Further suggestions for dealing with the emotional toll of litigation come from physician leaders Kelly and Gebhardt (2003:1) and include: understand and be able to recognize the symptoms of stress; become familiar with the medico-legal process; involve and communicate with your family and colleagues; exercise regularly; and maintain a healthy perspective.

It is not known whether NZ Heads of Departments and Clinical Directors receive education and training for supporting specialists going through a medico-legal process in NZ.

2.3.4 Current Interventions/ Systems for New Zealand Doctors

The NZ Medical Council has a standing Health Committee consisting of three medical members and one public member. This committee is informed as soon as the Registrar of the Medical Council receives a report about the possible impairment of a doctor. The Health Committee uses an 'established assessment and rehabilitation procedure' to 'separate health issues from those of conduct and discipline' (www.mcnz.org.nz). Although this Health Committee is concerned about the well-being of the doctor, their 'first objective is to protect the public and, second, to address doctors' health issues' (www.mcnz.org.nz). The Medical Council's role regarding stress management is primarily one of dealing with 'impaired' doctors.

The Doctors' Health Advisory Service (DHAS) is funded by the Medical and Dental Councils, the Medical Assurance Society and the Association of Salaried Medical Specialist and is a:

Confidential advisory service for health practitioners or students, which provides early assessment and advice for practitioners with personal health problems (DHAS, 2005).

The DHAS is staffed by volunteers in the health professions who have appropriate experience and training to arrange initial support and assessments for health practitioners having personal health problems. This confidential referral service for health practitioners and students, families and professional colleagues aims to provide support and assistance before impairments become severe. The range of problems referred to the DHAS includes personal and health problems, mental and physical disabilities, substance misuses, stress-related disorders and financial and legal difficulties.

Although the DHAS aims to be a confidential service, it is still obliged to refer a matter to the Health Committee of the Medical Council when patients are considered to be at serious risk. However, this ‘occurs with the full knowledge of the practitioner concerned’ (DHAS, 2005). It is not known how important this service is to specialists going through a medico-legal process.

In addition to the DHAS, each District Health Board (DHB) has its own internal Employee Assistance Programme (EAP) and is obliged under legislation to manage workplace stress. No NZ research was found as to whether or not specialists approach hospital management when stressed by a medico-legal process.

2.3.5 Hypothesis for HRM Strategies to Manage Medico-legal Stress

In an overview of SMIs, Lamontagne (2001: 91) maintains that primary preventive interventions should have priority over the other SMIs as:

The closer the intervention is to the source of the exposure (stressor), the more far-reaching the preventative impacts and outcomes.

Identifying, assessing and managing workplace stress should be undertaken within a framework that encompasses policies at a national level that will promote their implementation at both the organisational and individual level (Dollard, 2001:31).

As there is no research in NZ regarding the HRM strategies used to assist medical specialists through a medico-legal process, a hypothesis has **not** been formulated for this section. Instead the reviewed literature has been used to develop a list of attributes that need to be assessed by the specialists for applicability. The principal research question, therefore, is exploratory and is stated as *‘To what extent do medical specialists find specific human resource strategies / interventions useful during the medico-legal process?’*

2.3.6 Research Conceptual Framework

This literature review has revealed that the topic of medico-legal stress is a multi-dimensional and complex issue drawing on a number of disciplines. There are a number of ways that the research on stress, the moderating variables and stress management interventions have been defined, measured and evaluated. Thus a research framework, based on the stress-strain model (Lazarus & Folkman, 1984), has been designed to summarise the key literature aspects applicable to medico-legal stress and its management. However, not all moderating variables or outcomes could be researched in this study. The next chapter on research design and data collection provides a pictorial representation of the research framework (Figure: 3.1) highlighting those variables from the literature review that are included in this research.

2.3.7 Chapter Summary

The literature review shows that a medico-legal process is a potential stressor to doctors and may cause short and long-term deleterious physiological, psychological and behavioural responses. This study adapts the stressor-strain transactional model of Lazarus & Folkman (1984) and the optimal matching theory of Cutrona (1990) to a medico-legal process as an acute occupational stressor. Appropriate social support, coping strategies, gender and cognitive appraisal may affect the level of stress experienced by doctors during a litigation process.

Medical specialists are highly educated, intelligent and motivated people and they have survived the rigor of approximately thirteen years of academic training. However the practice of medicine has many intrinsic stressors. In NZ this type of work is classified as ‘Category 4’ and is described by Scott-Howman and Walls (2003: 228) as being:

Emotionally challenging, draining or even repugnant, require intense, prolonged concentration, or have very high consequences of error.

To support medical specialists through a medico-legal process, DHB employers and specialist Colleges should firstly understand to what extent specialists are affected by litigation. Secondly, they should ascertain what specific HR strategies /interventions specialists perceive would be useful during a medico-legal process. This research, based on the literature reviewed, should facilitate a greater understanding of the topic of specialist medico-legal stress, the impacts and the subsequent support interventions required.

As a special adviser for the modernization of postgraduate education to the NHS, Firth-Cozens (2003: 671) states that that she is not aware that a:

Truly proactive means of attending to the health of NHS staff, including doctors, has been planned.

The same can be said for New Zealand.

The following Chapter, *Chapter Three*, outlines the research design, methodology and data analysis for this study.

CHAPTER THREE

RESEARCH DESIGN AND DATA COLLECTION

This chapter outlines the conceptual framework used to design the research methodology. It includes a description of the variables, population and sampling and the data collection process. Then an overview is given of the development of the questionnaire and quantitative research techniques used in the study. Finally, a summary of the descriptive statistics will be given for the demographics, the ‘most trying / difficult’ medico-legal process, and the Overall, Intrusive and Avoidance Impact of Event Scores.

3.1 Introduction

This chapter presents the methodological considerations pertinent to this research study. Firstly, the conceptual framework on which this study is based will be presented and then the dependent and independent variables will be identified. Following this, issues of choosing appropriate measurement instruments and representative samples will be outlined, and then the process of formulating the questionnaire, data collection and data analysis techniques will be presented.

The research method is quantitative dominant using a cross-sectional, self-administered questionnaire based on the individual medical specialist as the unit of analysis. Qualitative comments by specialists are used for further illustration.

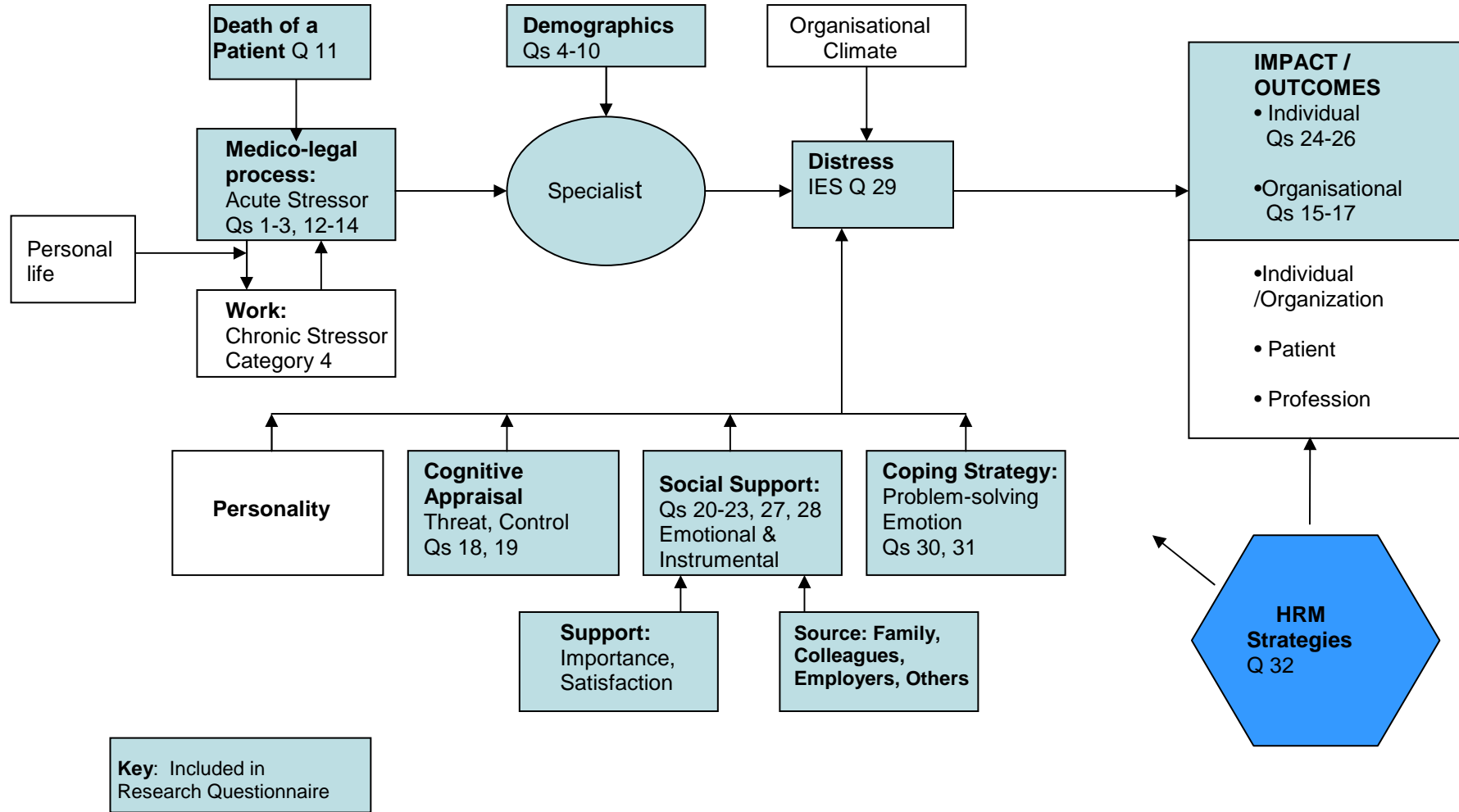
In order to answer the research questions, the primary data required falls into the following categories:

- Categorical background data on the individual medical specialist
- Data on their most trying/difficult medico-legal experience
- Level of distress experienced by specialists during the medico-legal process
- Impact on the specialist's well-being and their relationship with spouse/life partner during the medico-legal process
- Data on their perceived importance of support
- Data on their perceived satisfaction with support received
- Data on their perceived usefulness of strategies for improving the support process.

3.2 Research Conceptual Framework

The literature review highlights the multidimensional aspects of both occupational stress and interventions (including social support). To highlight aspects of the literature pertinent to this study, the researcher designed a theoretical framework that adapts the transactional stressor-strain model to the medico-legal context. This research framework (Figure 3.1) is based on the models of Folkman & Lazarus (1984) and Israel, Baker, Goldenhar, Heaney and Schurman (1996) and determines the items to be included in the questionnaire. The shaded areas are those items that are included in the research questionnaire and they include a reference to the associated questionnaire item. Those items that are important to the topic of medico-legal stress and associated interventions, but outside the scope of this research, have been left unshaded.

FIGURE 3.1: RESEARCH FRAMEWORK



3.3 Research Variables

The research variables are categorised into dependent and independent variables. Several different hypotheses have been formulated about the specialists' stress responses to medico-legal processes, therefore the stress variable and resulting health outcomes are the 'dependent', or the response variables. The 'independent variables are used to explain or predict a result or outcome on the dependent variable' (Gray, 2000: 400).

Dependent Variables are:

Impact of Medico-legal Process

1. Distress (Level of Total as measured by IES)
2. Physical Health
3. Emotional Health
4. Relationship

Independent Variables are:

Categorical - Individual:

5. Gender
6. Specialist group (medical versus surgical)

Medico-Legal Situation

7. Death of a patient
8. Resolution Time for Medico-legal process
9. Outcome of medico-legal process (favourable or unfavourable)

Social Support

Gap (I – S) in Emotional support from:

10. Family / Friends
11. Colleagues
12. Organization
13. Other

Gap (I – S) in Instrumental support from

14. Family / Friends
15. Colleagues
16. Organization
17. Other

Threat / Control

18. Extent of perceived threat of medico-legal process
19. Perception of control / influence over the medico-legal process

The independent variables of *threat* and *control* are pertinent to the transactional stressor-strain model (Lazarus & Folkman, 1984) and to the optimal matching theory of social support (Cutrona, 1990).

3.4 Population and Data Set

The population for this research is the total number of practising medical specialists as registered with the NZ Medical Council. In 2003 the number of active medical specialists was 2873, of which 2269 were males (79%) and 604 females (21%) (www.nzhis.govt.nz/stats/specstats).

The study participants are vocationally registered medical specialists with specialist Colleges / Associations in NZ (eg NZ Orthopaedic Association). The unit of analysis is the individual medical specialist who is a registered member of the relevant specialist College / Association.

Sampling Issues

An important issue for research is to be able to make conclusions from the sample about the larger population. To do this, the researcher must choose a sample that is representative of the population as a whole such that the sample's main characteristics are similar to the population as a whole (Gray, 2004: 83).

The researcher used the sample size calculator found online from www.surveystem.com to determine an appropriate sample size of medical specialists that would be required to be representative of the total specialist population. A *confidence interval* of 4% and a *confidence level* of 95% were selected. The sample size required for a population size of 2873 was calculated as 497.

3.5 Choice of Instruments

The concepts of reliability and validity are important for quality research so the chosen survey instruments must measure what they are intended to measure giving similar results over time and under different circumstances (Gray, 2004: 93). Measurements for the dependent distress variable and the independent social support variable are now outlined.

3.5.1 Measure of Distress

The choice of a widely accepted and reliable instrument to measure the symptoms of distress (dependent variable) was critical as this is the first time that

specialist medico-legal distress has been measured in NZ. Furthermore, the results from this research may be used as a benchmark for future longitudinal studies on specialist medico-legal distress.

There are many instruments used for measuring occupational stress. One is the Masloch Burnout Inventory (Masloch & Jackson, 1986), which is widely used as a measure for the burnout factors of emotional exhaustion, depersonalization and lack of personal accomplishment. Other instruments include the Beck Depression Inventory (Beck, Ward, Mendelson, Mock & Erbaugh, 1961); the Brief Stress Questionnaire (Cartwright & Cooper, 1997); the Brief Symptom Inventory (Derogatis & Melisaratos, 1983); and the Perceived Stress Scale (Cohen, Kamarch & Mermelstein, 1983). These instruments either did not fit the specific nature of the variables chosen for this study, or were too long and not in the public domain. The Impact of Event Scale (IES) designed by Horowitz, Wilner and Alvarez (1979), however, did fit the instrument requirements for this research.

A web-based survey was undertaken of a sample of 600 members of the *International Society of Trauma Studies* to assess their most commonly used instruments from a list of 81 adult tests and 21 child/adolescent tests (Elhai, Gray, Kashdan & Franklin, 2005: 542). They found that in 2004 the IES was administered 568 times by 11% of the clinicians, and 740 times by 8% of researchers. Out of the 31 self-report instruments, the IES was ranked 7th by those members surveyed (Elhai et al., 2005: 543). In this web-based survey there was, however, an inducement of a lottery prize. The IES is a self-report measure, inexpensive to administer and takes less than 10 minutes to complete. Further advantages of the IES instrument are that it is in the public domain, so is accessible, and it is easy to understand.

The IES has been used for more than 20 years as a measure of stress reactions after a traumatic event. It was originally created for the study of bereaved individuals but has subsequently been used in a variety of trauma studies. Horowitz et al. (1979) observed that the most common responses to traumatic stressors could be divided into two broad categories: avoidance and intrusion. These two dimensions parallel the criteria for PTSD in the *Diagnostic Manual of Mental Disorders, 4th Ed.* except for the hyperarousal symptoms. Intrusion and avoidance are defined as (Sundin & Horowitz, 2002: 206):

Intrusion involves unbidden thoughts and images, troubled dreams, strong pangs and waves or feelings, and repetitive behaviour and avoidance involves ideation constriction, denial of meanings and consequences of the event,

blunted sensation, behavioural inhibition or counter-phobic activity and awareness of numbness.

The IES instrument consists of 15 items: seven measure 'intrusive' symptoms and eight measure 'avoidance' symptoms. A literature review of 66 studies that had analysed the reliability and validity of the IES instrument was undertaken by Sundin and Horowitz (2002: 209) and their conclusions were:

- The measure is a reliable index of subjective distress from a particular trauma, and can be used to compare one group of trauma victims with another, or hence one trauma or one type of victim with another.
- The review showed that the IES can be used as a repeated measure to track a trajectory of degree of subjective stress over time in a person or a group of people.
- The IES sub-scales were found to be useful for examination of variations in constellations of intrusion and avoidance symptoms over time in different people, including those with PTSD.

The authors noted the limitation of the IES being a self-report measure so that respondents may be influenced by a bias of reporting more or less distress, which had not been taken into account. Over the 66 studies, the internal consistency for IES 'intrusion' is mean $\alpha=0.86$, and for IES 'avoidance' mean is $\alpha=0.82$ (Sundin & Horowitz, 2002: 205) with a test-retest reliability for the overall stress score of 0.87 (Regehr et al., 2003: 386).

One of the advantages of self-report data is that it is a relatively easy, cost-effective method of obtaining information on the experiences and perceptions of the respondents being studied. However, this methodology has the potential for inaccuracies. One potential inaccuracy is that of recall, particularly when the questionnaire is historically focused. In terms of a clinical measure of the level of distress, Sundin & Horowitz (2002:209) showed that the IES can be used as a repeat measure to track subjective stress over time.

3.5.2 Measure of Social Support

The researcher could find no literature that assessed emotional and instrumental social support within the specific context of medico-legal processes. This study is about the functional dimensions of specialist perceived support from various sources during a medico-legal process.

Stevens and Long (1999: 253) used the 'Caplan Social Support Instrument' to examine the stress-buffering effect of social support in occupational stress studies. This instrument comprises four items, two for emotional support and two for instrumental support. It includes the subscales that describe the perceived support available for an

employee from co-workers, supervisors and others. However, the limited number and general nature of these items in the Caplan Social Support Instrument did not meet the requirement for this study.

The Social Support Questionnaire (Sarason, Levine, Basham & Sarason, 1983: 139) measures 21 items of social support and satisfaction with available support. This instrument measures the amount and extent of social support, that is the 'structural' approach and not the 'functional' approach required for this research. To test the optimal matching hypothesis requires emotional and instrumental support to fit individual needs (Lahey & Cohen, 2000: 35) whereby:

Perceived support distinguishes between different support functions.

Due to the lack of appropriate instruments to measure perceived social support within the specific medico-legal context, the researcher had to adapt components of existing instruments to fulfil the research requirements. The functional approaches to support as defined by the *types* - emotional and instrumental - were used (Thoits, 1995; House & Kahn, 1985). The *sources* of social support based on the Caplan Social Support Instrument (Stevens & Long, 1999: 253) were used. These included supervisor, co-worker and family/friends, with the addition of 'Other' (Frese, 1999: 183) to include specific sources of support for NZ specialists.

To assess whether or not the type and source of social support matched the *need* of the specialist, the researcher used the Important-Performance Analysis (IPA). The IPA was first introduced by Martilla and James (1977: 78) to understand customer satisfaction as a function of both expectations of importance and satisfaction regarding specific attributes. These attribute measures are then mapped to a two-dimensional grid to generate four different suggestions to manage the situation being assessed.

IP analysis has been used extensively in service industries (Scott, Mannion, Davies & Marshall, 2004; O'Neill & Palmer, 2004; Magal & Levenberg, 2005). However, as with the other measures and studies of social support, the IPA has some limitations in that there are no clear definitions of the concepts of 'importance' and 'performance/ satisfaction', nor is there a consistent use of scale construction (Oh, 2001: 624).

To assess the cognitive appraisal of the perceived threat and controllability of the medico-legal process, a single-item question was used. This single-item measure 'constitutes the largest body of evidence on measures specifically targeting appraisal (Herbert & Cohen, 1996). A potential inaccuracy in self-report data is that of 'social desirability' (McNally & Newman, 1999: 311) involving:

Participants overestimating or underestimating their perception of being supported depending on how they wish to present themselves.

The combined social support instrument designed specifically for this research is in Section 4 (items 20-23) of the questionnaire in Appendix 1.

3.6 Data Collection Strategy

3.6.1 The Process - Stage One

The researcher conducted a preliminary literature review and prepared first drafts of the research proposal and questionnaire. Initial approval for this research was obtained from the Charles Sturt University Faculty of Commerce, International School of Business, the Ethics Committee and the Graduate Board of Studies.

The choice of a self-administered questionnaire was chosen for the following reasons:

- Respondents may be more amenable to answering personal questions through an anonymous medium.
- The research population sample is geographically widely dispersed.
- ‘Research subjects need to be given time to reflect on their answers’ (Gray, 2004: 108).
- Postal questionnaires are one of the cheapest research methods and ‘can achieve relatively high response rates when the topic is relevant to the audience’ (Gray, 2004: 108).
- A lack of interviewer bias.
- The specialists are able to complete the questionnaire at a time and place that suits them.

The draft questionnaire was piloted with five medical specialists. Feedback from these specialists was requested on: the time taken to complete the questionnaire, the clarity of the questions, and the structure / layout of the document. Comments from the pilot resulted in extending the approximate time taken to complete the questionnaire by five minutes to 25-30 minutes. The layout and order of the questions were subsequently changed such that the section on demographics was moved to the front and the more personal questions regarding levels of distress were moved towards the end of the questionnaire. In addition, extra items were included for the question on ‘Suggestions for Support’.

Prior to the preparation of the final questionnaire, input was requested from the following individuals /organisations regarding language and content clarity:

- NZ Medical Association
- Council of Combined Medical Colleges
- Association of Salaried Medical Specialists (Union)
- Ministry of Health – Director of Quality
- Health and Disability Commissioner
- Doctors’ Health Advisory Service

An application had to be made to the Accredited NZ Health and Disability Multi-Region Ethics Committee as this study involved human participants where the research:

- Involved access to personal information for purposes other than direct consumer care or clinical audit
- Seeks to further scientific or professional knowledge by means of questionnaires
- Involves District Health Board staff.

www.newhealth.govt.nz/ethicscommittees/researchers.htm

The Multi-region Ethics Committee requested some changes to the research proposal and questionnaire – the most important being that the researcher had to show that consultation with Maori had been undertaken. This was achieved by sending the research proposal and questionnaire to Dr Matire Harwood of the Maori Medical Practitioners’ Association. Dr Harwood approved the research with a requirement that **‘ethnicity’** be added to the demographic section as the issue of ‘diversity’ is important for Maori. As a result of this request, Item 7 was inserted into the questionnaire asking respondents who had been involved in a medico-legal process to indicate their ethnicity by choosing either ‘*New Zealander*’; ‘*New Zealand Maori*’ or ‘*Other*’.

The required changes were included in the questionnaire and the proposal was re-submitted to the Multi-Region Ethics Committee. Approval was given, however they stated that the researcher should only expect a 2-3% return for this questionnaire due to the nature of the target population.

Following this approval, the questionnaire was sent to the Council of Combined Medical Colleges (CMC). At their meeting in December 2005, the CMC decided to support this research in principle, however the decision to participate by circulating the questionnaire to specialists Fellows was left to each College / Association.

Royal Colleges and Associations will not give out the list of their specialist members, nor can one access a complete list of specialists from the Medical Council. Due to limited financial resources and timeline constraints, it was not possible to undertake a 'saturation survey' or do a random sampling from the telephone books across NZ. Medical practitioners are apparently inundated with many requests to complete surveys, so to achieve the best possible response rate the researcher's next step was to gain the support of the specialist Colleges/Associations.

The list of specialist Colleges /Associations to approach was obtained from the Combined Council and from the website of the Medical Council of NZ – Branch Advisory Bodies (<http://www.menz.org.nz/default.aspx?tabid=1050> (accessed on 13/01/2005). The Executive Committees of these Colleges / Associations were approached with the email letter of support from the CMC and a copy of the questionnaire. Each Executive Committee discussed the research request and decided whether or not to participate in the study.

The Royal Australasian College of Surgeons decided not to send out the questionnaire as the College had their own survey out on 'surgical services' and they did not want to overload their members. This was disappointing as this body covers a very large number of surgical specialities. The researcher circumvented this by directly approaching the NZ Orthopaedic Association and the NZ Association of General Surgeons and these associations agreed to participate.

The researcher did not receive a reply to the request for participation from the following Colleges / Associations:

- Australian and NZ College of Anaesthetists
- NZ Society of Anaesthetists
- Australasian Faculty of Public Health Medicine
- Paediatric Society of NZ
- Royal Australasian and NZ College of Psychiatrists
- Royal Australasian College of Physicians

The Royal NZ College of General Practitioners responded to the request. However their members did not meet the criteria for this study as it is designed specifically for those vocationally registered practitioners in secondary care and not for those in primary care.

Seven specialist Colleges / Associations agreed to send out a 'pdf' copy of the questionnaire to their members with contact email addresses, accompanied by a request

that they print out the questionnaire and return it by post to the researcher. The participating Colleges / Associations are:

- Royal College of Pathologists of Australasia (NZ Committee)
- Royal Australasian College of Radiologists
- Royal Australasian and NZ College of Ophthalmologists
- Royal Australian and NZ College of Obstetricians and Gynaecologists
- NZ Orthopaedic Association
- NZ Association of General Surgeons
- NZ Society of Otolaryngology Head and Neck Surgery.

Note: The Colleges of Pathologists and Radiology were the ‘medical’ Colleges to support this research. The other five Colleges/Associations are classified as ‘surgical’ specialities.

3.6.2 Questionnaire

The questionnaire was designed to be completed by an individual medical specialist as being representative of their own perception of distress and support experienced during a medico-legal process.

The questionnaire contained a mixture of question types, according to the data required as outlined in the ‘data requirements’ section. Some items were categorical in nature, where the respondent ticks an appropriate category; while others required a dichotomous response system. Where possible, scaled responses were given, using a five-point Likert scale.

A covering letter to each specialist was attached to the front of the questionnaire (Appendix 1). This letter explained the purpose of the research, that it was anonymous and that the conclusions and recommendations were to be made available, on request, to the professional specialist colleges/ associations as well as to the District Health Boards.

Thirty-two items, divided into six sections were incorporated into the questionnaire (Appendix 1). The questionnaire was divided into the following sections:

Section 1: Experience of Medico-legal Processes

Section 2: Demographics

Section 3: Most Trying / Difficult Medico-legal Situation

Section 4: Emotional and Instrumental Support during the Most Trying / Difficult Medico-legal Situation

Section 5: Impact of Event Scale

Section 6: Suggestions for Support

Rationale for the items in each section is explained next.

3.6.2.1 *Section 1: Experience of Medico-legal Processes*

The initial question determined whether or not, in the last 10 years, the medical specialist had been involved in a medico-legal process. If the answer was negative, the specialist was not required to do anything else but return the first page of the questionnaire. This was done to minimise ‘respondent bias’ of only people who had been involved in a medico-legal process responding.

The first question in this section obtained information concerning the medico-legal processes the specialist had been involved in – the Accident Compensation Corporation, Health and Disability Commissioner, Medical/Health Practitioners Disciplinary Tribunal and the Coroner’s Court. The next question asked for the longest time taken from initial notification until resolution of a medico-legal process. In the third item, the specialist was asked to select which was the **most trying/difficult** medico-legal process. This was in case the respondent had been involved in a number of medico-legal processes.

3.6.2.2 *Section 2: Demographics*

Seven questions were used to obtain demographic information: gender, age, ethnicity, employment status, years qualified as a specialist and whether specialist training was completed in NZ or overseas. The only category of speciality requested was that of the two broad groupings of ‘medical’ and ‘surgical’. This grouping is similar to that in the study undertaken by Bark et al. (1997: 8). This was done for two reasons, the first being that NZ has a relatively small population of specialists, with several specialities being too small for statistical analysis. Secondly, due to this small population, it would have made respondent identification possible via information given out on the Health and Disability Commissioner web-site reports – this needed to be avoided.

These demographic items are similar to those used in the NZ study on surgeons by Tapper et al. (2004: 979) so that some comparisons could be made to minimise non-response bias.

3.6.2.3 *Section 3: Most Trying/Difficult Medico-legal Situation*

In this section of the questionnaire, the respondent was asked nine questions about the most trying/difficult medico-legal process they had identified in Section 1: 3. The questions included whether or not the medico-legal situation had involved a patient death, as this is an independent variable for the level of distress experienced. The status of the medico-legal process was requested – that is, at the time of completing the questionnaire, was the medico-legal process still in progress or had it been resolved. Further independent variables were the outcome of the medico-legal process (favourable or unfavourable), and the length of time to resolution.

Information was requested on whether or not the medico-legal process caused the specialist to take stress leave, sick leave, or a change in work scope/load. If the answer was affirmative, the number of days taken was requested to highlight a potential impact on service delivery.

A question was asked whether or not the specialist had spoken to their employer regarding the issue of stress caused by the medico-legal process and, if not, the reason for this. Although OSH legislation places a responsibility on the employer to be aware of workplace stress, there is also a responsibility for the individual to inform their employer if they are experiencing such stress.

Cognitive appraisal is a variable in both the stress-strain model and the optimum match support model. To examine primary appraisal, a question was asked on the extent that this most trying/difficult medico-legal process was a **threat** to the specialist's professional identity and reputation (*No threat to extreme threat* on a five-point Likert scale).

To examine secondary cognitive appraisal, the specialist was asked to rate, on a five-point scale, the extent they thought it was possible to **control/influence** the outcome of the medico-legal process from *Definitely no control* to *Definitely controllable*.

3.6.2.4 *Section 4: Measurement of Emotional and Instrumental Support during the Most Trying/Difficult Medico-legal Situation*

This study will examine the major types of social support, namely emotional and instrumental support. Instrumental support is expected to buffer the effects of medico-legal distress by assisting the specialists to cope more effectively with the **process** of the medico-legal situation and the work environment. Emotional support is expected to

assist the specialist to deal with any psychological **reactions** to the medico-legal process.

To determine specialist perceptions on the sources of support received during a medico-legal process, the support groups were based on those identified by Hudek-Knezavic and Kardum (2000: 197) and were adapted to include NZ specific sources for this topic. The main support groups include:

- Family - spouses/partner, family, friends
- Colleagues – including immediate colleagues, other specialist colleagues, Head of Department
- Organization – hospital management, Human Resource Managers, counselling services, private hospital management and other staff (eg nurses)
- Other agencies - specialist Colleges, legal counsel, specialist Unions, religious leaders and Insurance providers.

The Importance-Performance Analysis (IPA) was chosen as the method to measure the importance of, and satisfaction with, emotional and instrumental support received during a medico-legal process. Twenty-two sources of social support were chosen for the four main support groups from overseas' research and these were adapted to suit the medical environment of NZ. These items were refined after the pilot study with the five specialists.

The specialists were firstly asked to complete the 22 items on importance-performance of 'emotional support' received during the most difficult/trying medico-legal situation. The definition of 'emotional support' was given at the top of the page and included: *easy to talk to, willingness to listen to you, caring and empathetic, helped your self-esteem*. The respondents were asked to rate their perceptions of the importance and satisfaction of the 22 items listed. A five-point Likert scale anchored at (1) *not at all important* to (5) *extremely important* was used, with an extra column for *Not applicable*. To measure perceived satisfaction with the emotional support received from the 22 sources, a five-point Likert scale anchored from (1) *not at all satisfied* to (5) *extremely satisfied* was used, with two extra columns added – *not accessed* and *not available*.

The same 22 items and Likert scale were used to measure perceived instrumental support. Instrumental support was defined as: *made things easier for you, could be relied upon, and gave information and advice*.

Two additional items in this section were designed to ascertain whether or not the most trying medico-legal situation caused or exacerbated a *physical condition* or an

emotional/psychological condition. These were the dependent variables to measure the resultant ‘strain’ from the medico-legal ‘stressor’. An item was included to measure the impact of the medico-legal process on an existing relationship with a spouse/partner – also a dependent variable. These three questions were anchored to a five-point Likert scale. Two additional items concerned whether or not support had been offered to a spouse/partner, and from whom.

3.6.2.5 *Section 5: Impact of Event Scale (IES)*

To measure the level of distress caused by the most trying/difficult medico-legal situation, the Horowitz Impact of Event Scale (IES) was used (Horowitz et al., 1976; Zilberg, Weiss, & Horowitz, 1982). The IES assesses the current subjective experience of distress for any specific life event.

In the questionnaire, the medical specialists were asked to complete the IES for their **most trying/difficult** medico-legal experience on the four – point Likert scale. The four points on the scale are: 0 (*not at all*); 1 (*rarely*); 3 (*sometimes*); (5) (*often*). The scoring system was implemented as outlined in the section on IES data analysis.

This section includes two open-ended, qualitative items on how the specialist dealt with their emotional/physical reactions and what they did to actively deal with their most trying/difficult medico-legal situation. These questions were asked to elicit the main coping strategies that were used to cope with distress – emotional or problem focused strategies. These will be coded to allow for the development of broad categories.

3.6.2.6 *Section 6: Suggestions for Support*

Twenty items were selected as suggestions for support that could be useful for specialists undergoing a medico-legal situation. These items were chosen from the overseas’ literature dealing with malpractice litigation and were modified after the pilot study.

The specialists were asked to rank each of the 20 items on a five-point Likert scale from (1) *not at all useful* to (5) *extremely useful*. A qualitative question regarding suggestions for other useful support was included.

A statement at the end of the questionnaire invited respondents to make further comments on the back page allowing for any issues not identified from the literature review.

3.6.3 The Process - Stage Two

The original proposal for this research was to undertake a postal questionnaire, which included a return stamped, addressed envelope. However, it was discovered that the Colleges/Associations conduct a large amount of correspondence with their Fellows by email. If this email survey option offered by the Colleges was not used, the researcher would **not** be able to access the lists of specialist Fellows, resulting in prohibitive time and resource costs to the researcher.

Accordingly, the administrator of each of the participating Colleges / Associations sent an email to their Fellows requesting them to complete an attached 'pdf' questionnaire. The respondents were asked to print out the questionnaire and return it by post to the researcher's post box within three weeks. A reminder email was sent out by the Colleges/Associations one week prior to the return date to promote an improved response rate.

However, there are disadvantages to an emailed questionnaire. Firstly, it is very easy to get 'lost' in the 'inbox' of busy professionals and forgotten about; secondly, the researcher had to accept the number of Fellows given by each College as the sample population. Thus, there was no randomized selection of participants, instead a 'saturation survey' within each participating College / Association was used.

3.6.4 Participating NZ Specialist Colleges/ Association

Table 3.1 is the population sample provided by each participating College /Association.

Table 3.1: Participating Colleges / Associations

College / Association	Total Population & Sample Size
Royal College of Pathologists of Australasia (NZ Committee)	206
Royal Australasian College of Radiologists	267
Royal Australasian and NZ College of Ophthalmologists	100
Royal Australian and NZ College of Obstetricians and Gynaecologists	173
NZ Orthopaedic Association	160
NZ Association of General Surgeons	120
NZ Society of Otolaryngology Head and Neck Surgery	81
Total	1107

This population sample of 1107 participants represents approximately 39% of the registered medical specialists in NZ. The required sample size was 497.

3.7 Data Analysis Techniques

3.7.1 Response Rate

From the total of 1107 questionnaires that were emailed to the medical specialists, the return was 118. This represents a response rate of approximately 10%, which was very disappointing but not unexpected given the prediction of 2-3% by the Multi-region Ethics Committee. The research results should be looked at in the context of this being an exploratory study, with the aim of highlighting issues that may need further longitudinal research.

The non-response to questionnaires is a potential source of bias that may compromise the validity of research results. In a study involving the work environment of psychiatric health care personnel, Thomsen (2000: 204) found that:

There were no differences between the responders and non-responders to the postal survey on the exposure or outcome variables.

However, the sample size was small for the Thomsen (2000) telephone follow-up of non-responders and interestingly, those healthcare individuals that did not answer the postal survey gave the following reasons: lack of time, just forgot, thought the survey was too long or did not trust the claim of anonymity (Thomsen, 2000: 208).

This questionnaire on medico-legal stress was seven pages long and may have been perceived as being ‘too long’ by some NZ specialist participants.

To be able to use the results from surveys, the researcher should minimise systematic bias to ‘be sure that those who *did* respond to the questionnaire were representative of those who *did not*’ (Zikmund, 1997: 205). Two examples of systematic bias that are disadvantageous to survey research are *non-response error* and *self-selection bias*. Non-response error occurs when there is a statistical difference between a survey of those that responded and a survey of those that did not respond. According to Zikmund (1997: 205), self-selection bias may occur in self-administered surveys whereby:

People who feel strongly about a subject are more likely to respond than people who feel indifferent about that subject.

As the specialist Colleges / Associations controlled the access to their members and the survey was totally anonymous, the researcher could not select a number of respondents to recontact to reduce any nonresponse error. To mitigate this problem and that of self-selection bias, the participants were requested to return their questionnaire whether they had been involved in a medico-legal process or not. In addition, the

respondents' demographics were compared to the target population of specialists to check for any possible biases in response patterns.

3.7.2 Data Coding and Analysis

The data was coded and entered into the programme Statistical Package for Social Sciences (SPSS-13). Frequency tables were generated for each item in the questionnaire. The data was cleaned to rectify data entry errors, and missing data was coded.

The statistical techniques used in this study included both descriptive and inferential methods. Descriptive techniques are a useful way of summarizing and presenting the research data on the main variables using means, standard deviations and frequency distributions in the form of tables and graphs. Inferential statistics, on the other hand, 'try to draw conclusions beyond the data' (Gray, 2004: 293) about the population from which the sample was taken. Univariate statistics were firstly generated for the dependent and independent variables before examining the relationships between the variables.

The 14 hypotheses formulated from the literature review differ in form, such that some look at the characteristics of a single population group, some explore the variables between groups, while others involve within-group analysis of variables. 'Between groups' analysis involved the use of the Levene's test to determine whether the variances, rather than the means, were different for unrelated groups. Two-tailed t-tests were used to test those hypotheses that stated that the mean scores on a variable would be different for two independent groups (Bryman & Cramer, 1999: 1553). All tests were two-tailed so there are two areas of rejection, both upper and lower tails, for the null hypothesis.

Relationships between variables were investigated using correlation techniques. Nonparametric correlation analysis, using Spearman rank-order correlation, was used for those hypotheses that compared the stress variables (more-or-less interval variables) with other variables that were ordinal, for example, time to resolution (Zikmund, 1997: 627). The interpretation of the Spearman's rho is identical to that of Pearson's r ; however, it makes fewer assumptions about variables. The correlation analysis was to provide information on the direction and strength of the relationship between the dependent and independent variables.

Within-group analysis for measuring the specialists' importance / satisfaction responses to the sources and types of social support sources, involved using paired t-

tests. The t-test compares the ‘means of the two groups to see if any differences between them are significant’ (Gray, 2004: 308). The following chapter, *Research Results*, provides further details on the statistical techniques and analysis used for each of the 14 hypotheses.

Some items in the questionnaire allowed for specialist comments or opinions to obtain a more in-depth understanding of the issues that were important to the respondents. The comments / opinions to the qualitative open-ended questions were then grouped into main themes and discussed in relation to the relevant quantitative analysis.

The Impact of Event Scale (IES) and the Importance-Performance Analysis are two measurement instruments that have been selected for this research and these analysis techniques are now outlined.

3.7.3 Impact of Event Scale Measurement & Analysis

The IES was used to assess the medico-legal distress level of the participating specialists. The ‘Intrusion’ and ‘Avoidance’ subscales and ‘Overall’ IES score were generated for each specialist. Five manual computations were done to ensure that the SPSS computations had been computed correctly.

The four points on the IES scale are: 0 (*not at all*), 1 (*rarely*), 3 (*sometimes*), and 5 (*often*). The scores for the Intrusive subscale range from 0-35 and are the sum of the scores for items 1,4,5,6,10,11 and 14. For the purpose of this questionnaire, the numerical annotation was changed to alphabetical (a to o). In Question 29 of the survey tool, the items for the Intrusive subscale are: a, d, e, f, j, k, and n.

The scores for the avoidance subscale range from 0-40 and are the sum of the scores for items 2, 3, 7, 8, 9, 12, 13, and 15. For the purpose of this questionnaire, the numerical annotation was changed to alphabetical (a to o) to reduce confusion during data input. In Question 29 of the IES instrument, the items for the Avoidance subscale are b, c, g, h, i, l, m, and o.

Scores for the subscales of Intrusion and Avoidance are the following:

< 9 low

9 ≤ 19 medium range

> 19 high (Hyman, 2004: 151)

The sum of the two subscales is the Overall distress score that ranges from 0 to 75, with the higher score reflecting a more stressful impact. It is suggested that the cut-off point is 26, above which a moderate or severe impact is indicated. The Overall IES is

interpreted according to the following dimensions for the symptoms of PTSD (<http://www.mardihorowitz.com>):

- '0-8 Sub-clinical range
- 9-25 Mild to moderate range
- 26 + Moderate to Severe

The above ranges will be used as an indication of the of stress response to the medico-legal process in this study. According to the above scoring method, each specialist respondent is given a score for *Intrusion* (I) and a score for *Avoidance* (A). The sum of these two dimensions is the *Overall (IES) Stress Score* for the specialist.

3.7.4 Importance-Performance Analysis (IPA)

IPA is used to assess the types and sources of social support for the specialists and is sometimes known as quadrant analysis as it plots two rating scale questions into four quadrants on a two-dimensional table. The IPA enables a gap analysis to be undertaken between the mean importance of perceived support and mean satisfaction with the support received from the 21 sources. The gap analysis enables a discrepancy rank to be allocated to each attribute source of social support. The means of the important/satisfaction of the instrumental and emotional support were plotted on IP maps for a quadrant analysis to guide intervention strategies.

The four quadrants are based on those by Martilla and James (1977: 78) and are the following:

- Quadrant A:* Concentrate Here
- Quadrant B:* Keep up the Good Work
- Quadrant C:* Low Priority
- Quadrant D:* Possible Overkill

The next section provides a summary of the descriptive statistics for this study.

3.8 Descriptive Statistics

3.8.1 Demographic Profile

There were 118 responses to the questionnaire, of which 62 (52.5%) specialists **had not** been involved in a medico-legal process in the last 10 years. No further information was requested of these respondents. Table 3.2 presents the demographic data of those 56 (47.5%) specialist respondents who **had been** involved in a medico-legal process.

Table 3.2 summarizes the demographics data of the 56 respondents who had been involved in a medico-legal process, of which 35 (62.5%) specialists were male and 21 (37.5%) were female. Females comprise 21% of the 2873 medical specialists in NZ (Medical Council of NZ, 2003), however three of the participating Colleges / Associations in this study have a higher percentage of female specialists than the national total. As shown in Table 3.1, these were Pathology - 34% female; Radiology 24% female; and Obstetrics and Gynaecology 35% female, so this may account for the higher return from female specialists than the national percentage indicates.

Two of the participating Colleges / Associations in this research are classified as medical, that is 24.7% of sample specialists and five are classified as surgical, that is 75.3% of sample specialists (Medical Council of NZ, 2003). The respondents comprised 11 (19.6%) specialists who classified themselves as medical and 45 (80.4%) as surgical. Thus the respondent 'speciality' demographics are similar to that of the national speciality divisions.

Fifty (89.2%) of the respondents practiced their speciality in the public health system (DHB) with 17 (30.4%) specialists in full-time public employment and 33 (58.8%) in a mix of public employment and private practice.

Thirty-one (55.4%) specialists indicated that they had completed their specialist training in NZ, while 22 (39.3%) of respondents completed their specialist training overseas. This compares with the Medical Council of NZ workforce analysis (2003:1) stating 36% of specialists are overseas trained. Three (5.4%) of the respondents indicated that the specialist training was a combination. It should be noted that this was not given as an option in the questionnaire and probably should have been included as a third alternative.

The respondent age distribution and years qualified as a specialist were fairly evenly distributed.

Table 3.2 shows that 49 (87.5%) of the specialists classified their ethnicity as ‘New Zealander’ while six (10.7%) specialists classified themselves as ‘Other’. There were no respondents that claimed to be NZ Maori.

Table 3.2: Demographic Data of NZ Specialist Respondents who had been Involved in a Medico-legal Process in the last 10 years

	Frequency (n=56)	Percent (%)
Gender Male	35	62.5
Female	21	37.5
Speciality Medical	11	19.6
Surgical	45	80.4
Practice Private Practice only	5	8.9
F/T Public Employment	17	30.4
Mix of Public & Private	33	58.8
Other eg retired	1	1.8
Ethnicity NZ	49	87.5
NZ Maori	0	0
Other	6	10.7
Declined to answer	1	1.8
Years qualified as a Specialist		
0-5 years	10	17.9
6-10 years	14	25.0
11-15 years	9	16.1
16-20 years	9	16.1
>20 years	14	25.0
Age Group 25-29 years	12	21.4
30-39 years	11	19.6
40-49 years	15	26.8
50-59 years	14	25.0
>60 years	4	7.1
Completion of Specialist training		
NZ	31	55.4
Overseas	22	39.3
Combination *	3	5.4

* This was not an option in the questionnaire

3.8.2 The Most Trying / Difficult Medico-legal Process

This was a cross-sectional study of a medico-legal process covering a 10-year time span and some specialists were involved in a number of different medico-legal processes. Specialists were thus asked to identify their **most trying/difficult** medico-legal process and to answer the remainder of the questionnaire based on that particular process. Figure 3.2 provides the results for those medico-legal processes chosen as the most trying / difficult by the respondents.

Figure 3.2: Medico-legal Processes chosen as the Most Trying / Difficult by NZ Specialists

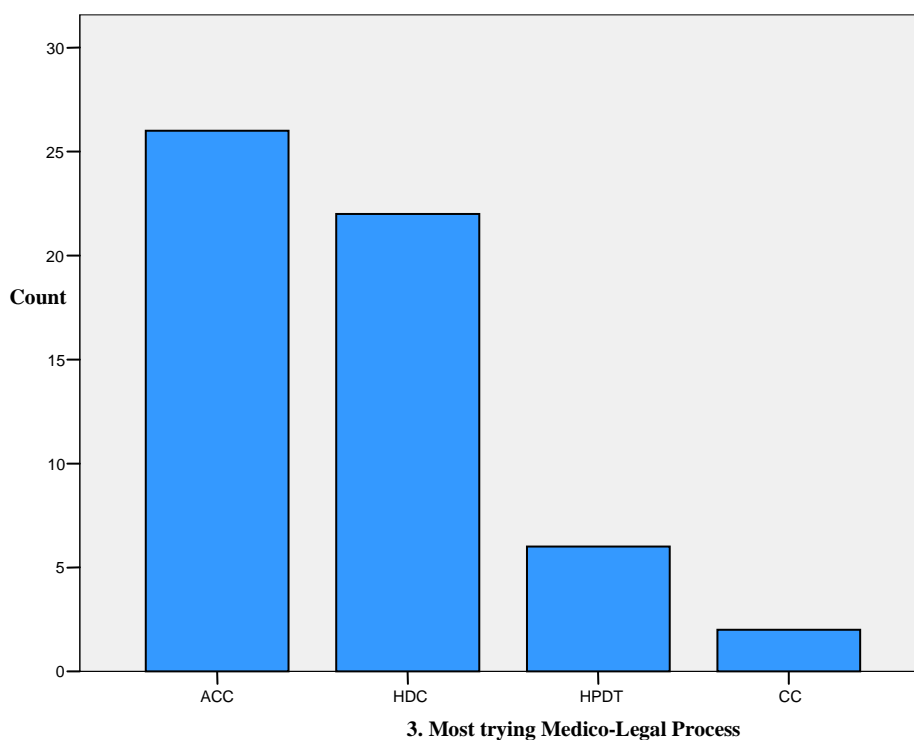


Figure 3.2 above shows that 26 (46.4%) of specialists chose the ACC process as the ‘most trying’ medico-legal process while 22 specialists (39.3%) chose the Health and Disability Commissioner process (HDC). This cumulative percentage of 85.7% is not surprising as these two processes are the only avenues available to health consumers to lodge complaints or a medical misadventure. It is only when a breach of consumer’s rights has been found by the HDC that a case goes on to the Medical / Health Practitioner’s Disciplinary Tribunal (HPDT). In this study, six (10.7%) specialists found that the HPDT process was the most trying although eight specialists indicated in item 1c that they had been involved in a HPDT.

A Coroner’s Court appearance was chosen as the most trying / difficult process by two (3.6%) of specialists although four specialists indicated that they had been involved in a Coroner’s Court inquest.

3.8.3 Descriptive Statistics for Impact of Event Scale (IES)

The IES consists of three scores, namely the Intrusive, Avoidance and an Overall score which is a combination of the first two scores. Figure 3.3 shows the frequency of the specialist Intrusive IES scores, which are measured from 0-35.

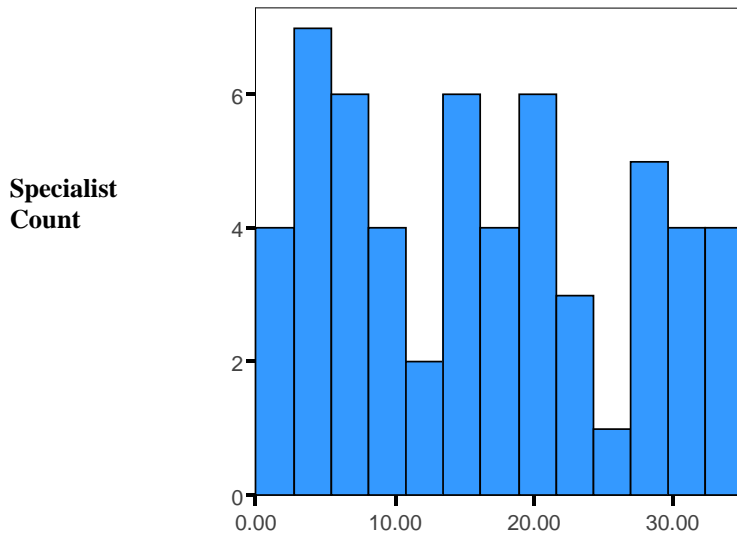


Figure 3.3: Frequency Distribution of Specialists Intrusive IES Score (0-35)

The scoring for the subscales of Intrusion and Avoidance is the following: < 9 low; $9 \leq 19$ medium range; > 19 high (Hyman, 2004). Thus, for the Intrusive subscale as shown in Figure 4.2 above, 21 (37.5%) specialists scored in the high range; 17 (30.4%) specialists scored in the medium range and 18 (32.1%) specialists scored in the low range for Intrusion.

Figure 3.4 gives the frequency of the IES for the Avoidance score, which is measured from 0- 40. This shows for the Avoidance scores that 12 (21.4%) specialists scored above 19 and fell into the high range, 29 (51.8%) scored in the medium range, while 15 (26.8%) scored in the low range for Avoidance.

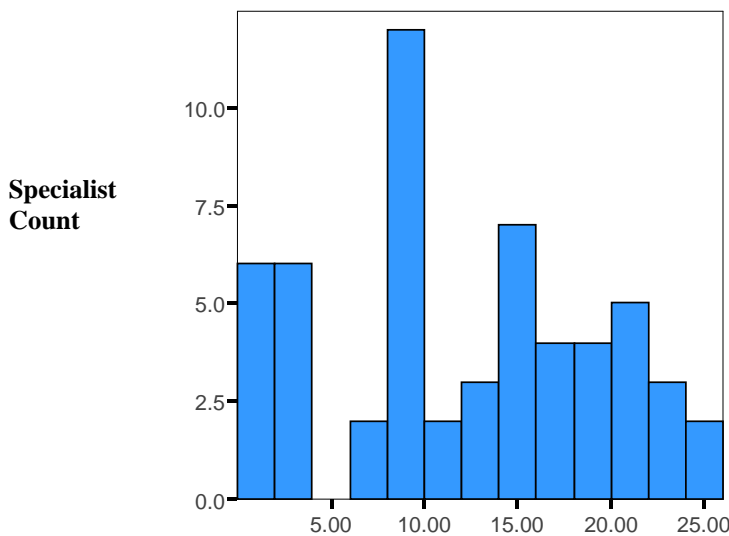


Figure 3.4: Frequency Distribution of Specialist IES Avoidance Scores (0-40)

Figure 3.5 gives the frequency of the specialists Overall IES, which is measured from 0-75.

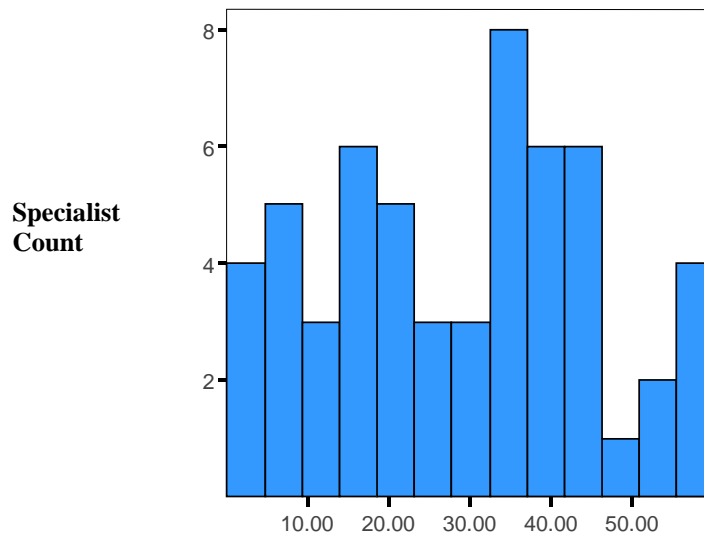


Figure 3.5: Frequency Distribution of Specialists Overall IES Score (0-75)

These Intrusive, Avoidance and Overall IES scores will be discussed in more detail in relation to each hypothesis.

3.9 Chapter Summary

This chapter presented the conceptual and methodological issues for this research. In particular, the rationale for the research instruments and questionnaire were described. A brief summary was provided of the data analyses performed. A summary of the demographic profile of the respondents and how this matched the demographics of the target population of specialists were outlined. Descriptive statistics were given for the most trying / difficult complaint and the three IES scores.

The following chapter, Chapter Four, provides the research results for each of the 14 hypotheses, including detail of the statistical tools used to test each hypothesis.

CHAPTER FOUR

RESEARCH RESULTS

This chapter reports the study results obtained by analyzing respondent questionnaires. It is divided into three main sections to mirror the literature review. Each section address the three sub-problems outlined in Chapter One and their associated hypotheses. The 14 hypotheses, together with statistical results, will be addressed under the following sections.

Section One: The Impact of Medico-legal processes on NZ Specialists
(Sub-problem One)

Section Two: Social Support and Medico-legal Stress (Sub-problem Two)

Section Three: Human Resource Strategies to Manage Medico-legal Stress
(Sub-problem Three)

4.1 Section One: The Impact of Medico-legal Processes on NZ Specialists (Sub-problem One)

This section deals with the results for the two principal research questions for Sub-problem One. The first question is: *‘What is the perceived level of distress experienced by medical specialists during a medico-legal process?’* Associated with this research question are hypotheses 1- 10 and these are all discussed in Part A. In Part B, the second principal question is addressed. It is exploratory and has no associated hypothesis and asks: *‘To what extent did the medico-legal process impact on the specialist’s relationship with their spouse / partner and was support offered to the spouse / partner?’*

Sub-problem One: Part A – Perceived Level of Stress:

4.1.1 Hypothesis 1.

The first hypothesis states:

A medico-legal situation will cause mild to moderate levels of distress in NZ medical specialists as measured by the IES.

The data presented in Table 4.1 shows the mean for the Overall IES score was 28.80 ($SD = 16.51$) which exceeds the score of 26+ used as the indicator for a clinical level of distress. According to Van der Ploeg and Kleber (2003:142), a total score of 26+ falls into the ‘moderate to severe’ range on the IES and is an indication of posttraumatic distress at a clinical level.

Table 4.1: Means, Standard Deviations and IES Scores for NZ Medical Specialists

	N	Minimum	Maximum	Mean	Std. Deviation
Horowitz Impact of Event Intrusive Score (0-35)	56	.00	35.00	16.2143	10.41627
Horowitz Impact of Event Avoidance Score (0-40)	56	.00	26.00	12.5893	7.29577
Horowitz Impact of Event Overall Score (0-75)	56	.00	60.00	28.8036	16.51382
Valid N (listwise)	56				

The mean for the Intrusive score was 16.2 ($SD = 10.42$) and the mean for the Avoidance score was 12.5 ($SD = 7.30$). This may be an indication of the way specialists cope as Creamer, Burgess and Pattison (1992: 457) suggest that it is the intrusive memories of trauma that cause the discomfort, hence the higher mean score, and avoidance behaviour is then used to deal with these discomforting emotions.

Table 4.2 shows results of the categorisation of the 56 respondents by their distress levels, using the IES.

Table 4.2: Categorisation of Specialists by Overall IES Scores

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Sub clinical Stress (0-8)	8	14.3	14.3	14.3
Mild to Moderate Stress (9-25)	17	30.4	30.4	44.6
Moderate to Severe Stress (26 +)	31	55.4	55.4	100.0
Total	56	100.0	100.0	

For the overall IES score, eight (14.3%) specialists were in the category of *sub-clinical stress*, 17 (30.4%) fell in the *mild to moderate stress* category, while 31 (55.4%) were in the *moderate to severe stress* category. Figure 4.1 shows a bar chart of these categories.

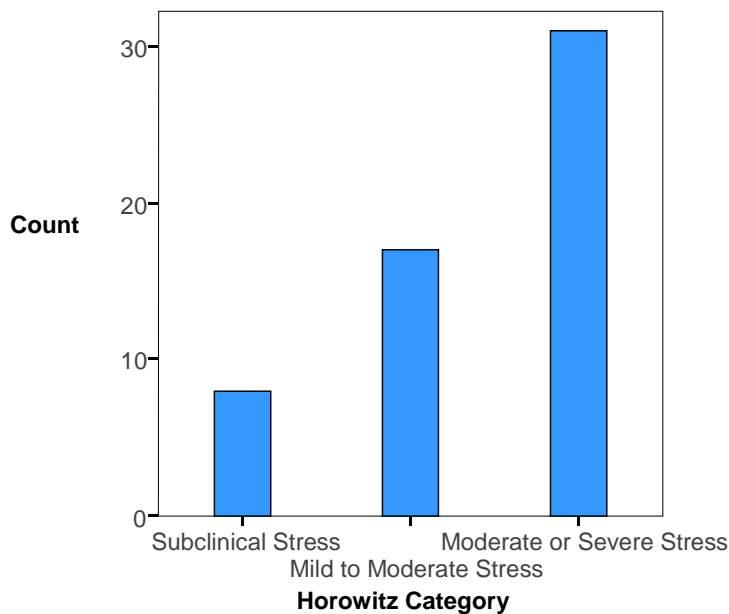


Figure 4.1: Distribution of Specialist IES Stress categories.

The results shown in Table 4.2 and Figure 4.1 imply that the reported stress levels were higher than predicted by the hypothesis, with 48 (85.8%) reporting ‘mild to moderate’ or ‘moderate to severe’ stress. This indicates that these specialists may be at risk of developing two of the criteria for posttraumatic stress disorder (PTSD).

However, as eight (14.3%) specialists reported symptoms in the sub-clinical range, this hypothesis is only partially supported.

4.1.2 Hypothesis 2.

The second hypothesis states:

A medico-legal process, regardless of outcome (favourable or unfavourable), will cause ‘mild to moderate’ levels of distress in NZ medical specialists.

In this study, 46 specialists indicated that the most trying medico-legal process they had been involved had a *favourable* outcome, while seven specialists indicated that their outcome was *unfavourable*. The remaining three specialists indicated that their medico-legal situation was still *in progress*. Table 4.3 shows the mean stress level for *favourable* and *unfavourable* outcomes for the three IES scores.

Table 4.3: Specialist IES Scores in Relation to Medico-legal Outcome

13. M-L resolved		N	Mean	Std. Deviation	Std. Error Mean
Horowitz Impact of Event Intrusive Score (0-35)	Favourable	46	16.0217	9.85109	1.45246
	Unfavourable	7	17.2857	13.42528	5.07428
Horowitz Impact of Event Avoidance Score (0-40)	Favourable	46	12.4348	7.04794	1.03916
	Unfavourable	7	13.2857	9.75900	3.68856
Horowitz Impact of Event Overall Score (0-75)	Favourable	46	28.4565	15.58447	2.29781
	Unfavourable	7	30.5714	22.10473	8.35480

Table 4.3 indicates that the 46 specialists reporting a *favourable* outcome had a mean Overall IES score of 28.46 ($SD = 15.58$), while those seven specialists reporting an *unfavourable* outcome had a mean Overall IES score of 30.57 ($SD = 22.10$). The 46 specialists reporting a favourable outcome had a mean score on the Intrusive scale of 16.02 ($SD = 9.85$) and a mean score on the Avoidance scale of 12.43 ($SD = 7.05$). In contrast, the seven specialists who reported an unfavourable outcome had a mean Intrusive score of 17.29 ($SD = 13.43$) and a mean Avoidance score of 13.29 ($SD = 9.76$).

The values between the specialists reporting a *favourable* outcome compared to those reporting an *unfavourable* outcome are not very far apart, so it is unlikely there would be evidence of a relationship between the IES score and the *outcome* of the medico-legal process. The Levene’s test was undertaken to determine if the groups had ‘equal variances’ and the resulting p -values were all greater than .05, so there was no evidence of the groups having different variances.

Table 4.4: Independent Samples Test Between the IES Score and Medico-legal Outcome

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Horowitz Impact of Event Intrusive Score (0-35)	Equal variances assumed	2.821	.099	-.301	51	.764	-1.26398	4.19334	-9.68245	7.15450
	Equal variances not assumed			-.239	7.017	.818	-1.26398	5.27806	-13.73841	11.21046
Horowitz Impact of Event Avoidance Score (0-40)	Equal variances assumed	2.322	.134	-.283	51	.779	-.85093	3.00972	-6.89319	5.19132
	Equal variances not assumed			-.222	6.984	.831	-.85093	3.83214	-9.91662	8.21475
Horowitz Impact of Event Overall Score (0-75)	Equal variances assumed	3.217	.079	-.316	51	.753	-2.11491	6.68843	-15.54249	11.31268
	Equal variances not assumed			-.244	6.937	.814	-2.11491	8.66502	-22.64238	18.41257

Hypothesis 2 was tested for each score with an independent samples *t*-test, where all tests were two-tailed. As there was no evidence that the groups had unequal variances, the upper *p*-value of each pair in Table 4.4 is used and in the case of Intrusive scores, $t(51) = -0.30$ and $p = .76$. In the case of Avoidance scores, $t(51) = -0.28$ and $p = .78$ and in the case of the Overall scores, $t(51) = -0.32$ and $p = .75$. Since all the *p*-values are greater than .05, there is no evidence of a relationship between the outcome and the level of stress.

To sum up, no evidence is present to refute Hypothesis 2. The hypothesis is therefore supported in that, regardless of outcome from the medico-legal process, specialists will experience mild to moderate levels of distress.

4.1.3 Hypothesis 3.

The third hypothesis states:

Specialists' level of distress from a medico-legal process will be significantly different based on gender.

In this study of 56 NZ specialists who had been through a medico-legal process in the last 10 years, 35 (62.5%) were males and 21 (37.5%) were females. Table 4.5 shows the mean level of stress for males and females for the three IES scores.

Table 4.5 Specialist IES Scores by Gender

	6. Gender	N	Mean	Std. Deviation	Std. Error Mean
Horowitz Impact of Event Intrusive Score (0-35)	Male	35	15.3714	11.36580	1.92117
	Female	21	17.6190	8.68606	1.89545
Horowitz Impact of Event Avoidance Score (0-40)	Male	35	11.9714	7.75919	1.31154
	Female	21	13.6190	6.49982	1.41838
Horowitz Impact of Event Overall Score (0-75)	Male	35	27.3429	17.91638	3.02842
	Female	21	31.2381	13.93881	3.04170

Table 4.5 demonstrates that the female specialists appear to have a slightly higher mean stress score than the males for all three IES scores. The mean Overall IES score for males was 27.34 ($SD = 17.92$), while for females the mean Overall score was 31.24 ($SD = 13.94$). For males, the mean Intrusion IES score was 15.37 ($SD = 11.37$) and the mean Avoidance score was 11.97 ($SD = 7.76$). In contrast, for females, the mean Intrusion IES score was 17.62 ($SD = 8.69$) and the mean Avoidance score was 3.62 ($SD = 6.50$).

Table 4.6: Independent Samples Test between the IES Scores and Gender

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Horowitz Impact of Event Intrusive Score (0-35)	Equal variances assumed	4.179	.046	-0.779	54	.439	-2.24762	2.88550	-8.03269	3.53746
	Equal variances not assumed			-0.833	50.716	.409	-2.24762	2.69882	-7.66647	3.17123
Horowitz Impact of Event Avoidance Score (0-40)	Equal variances assumed	1.850	.179	-0.816	54	.418	-1.64762	2.01998	-5.69743	2.40220
	Equal variances not assumed			-0.853	48.126	.398	-1.64762	1.93182	-5.53154	2.23631
Horowitz Impact of Event Overall Score (0-75)	Equal variances assumed	4.559	.037	-0.852	54	.398	-3.89524	4.56962	-13.05677	5.26629
	Equal variances not assumed			-0.908	50.255	.368	-3.89524	4.29223	-12.51536	4.72488

The Levene's test was undertaken to determine whether the groups had equal variances. Table 4.6 shows a slight evidence of a lack of equal variances for the Intrusive score of .046 and for the overall IES score of .037.

The hypothesis was tested for each score with an independent samples *t*-test and all tests were two-tailed. In the case of Intrusive scores, the *p*-value for equality of variance was .046 so an unequal variance test was performed yielding $t(50.7) = -0.83$ and $p = .41$. In the case of Avoidance scores, equal variances were assumed and $t(54) = -0.82$ and $p = .42$. In the case of the Overall scores, the *p*-value for equality of variance was .037 so an unequal variance test was performed yielding $t(50.3) = -0.91$ and $p = .37$.

To sum up, since all the *p*-values are greater than .05, there is no evidence of a relationship between level of stress and gender. Thus, Hypothesis 3 is not supported.

However, you can't discount the fact that a larger sample could actually support this hypothesis because females comprise 21% of the 2873 medical specialists in NZ, yet in this study 37% respondents are female. Table 4.7 shows the percentage demographics of female specialists in the main occupational groups participating in this study.

Table 4.7: Female Demographics of Participating Specialist Groups

Occupational Group	Percent Female
Pathology	34
Radiologists	24
Ophthalmology	13
Obstetrics and Gynaecology	35
Orthopaedic Surgery	4
General Surgery	4
Otolaryngology Head and Neck Surgery	3

Source: Medical Council of NZ – Workforce Analysis 2003

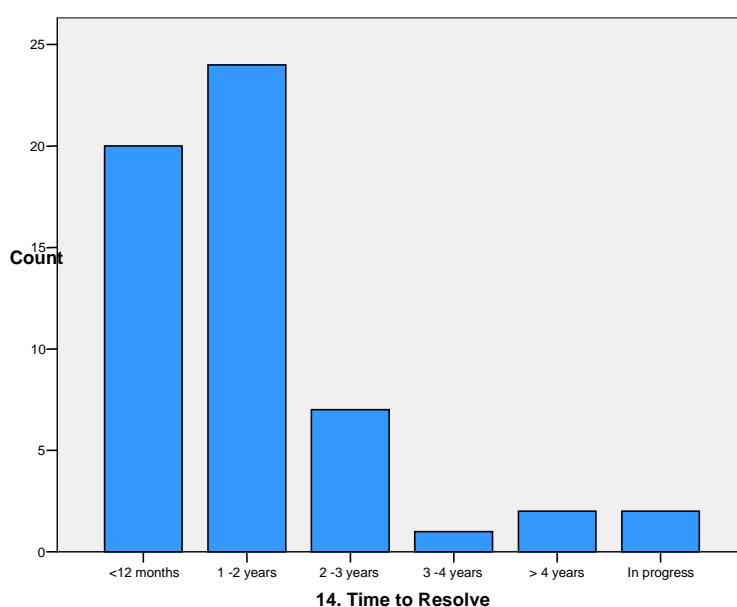
4.1.4 Hypothesis 4.

The fourth hypothesis states:

Medico-legal situations that took longer to resolve will result in higher levels of distress.

In Item 14 of the questionnaire, the 56 specialists involved in a medico-legal process were asked to indicate the time taken to resolve the situation from initial notification until resolution. Figure 4.2 shows their responses.

Figure 4.2: Time Taken to Resolve the ‘Most Trying’ Medico-legal Situation



For the length of time to resolution, 20 (35.7%) specialists indicated this process took less than 12 months; for 24 (42.9%) specialists, it took 1-2 years. This resulted in a cumulative percentage of 78.6%. For seven (12.5%) specialists, the process took 2-3 years; for one (1.8%) specialist, it took 3-4 years; while for two (3.6%) specialists, it went on for over four years. Therefore, for 21.4% of the specialists, the medico-legal process continued for over two years.

In the NZ Health & Disability Commissioner (HDC) Annual Report for 2005, the timeliness for complaint resolution was: 47% of complaints were resolved and closed within 12 months, and 97% of investigations were completed within two years (www.hdc.org.nz/files/hdc/publications/annual-report2005.pdf:34). An objective for the HDC over the past few years has been to improve on these figures. However, no direct comparisons can be made with these HDC figures because the HDC figures cover one

year and this study is over a 10-year timeframe and also includes complaints lodged with the ACC, as well as Coroner’s Inquests.

As the IES stress variables are more-or-less interval variables, but the length of time is only ordinal, Hypothesis 4 was tested with nonparametric correlation analysis using Spearman’s Rho. Table 4.8 shows the correlations among the three IES scores and Item 2 on the questionnaire, which asks about the longest time taken to resolve the medico-legal issue.

Table 4.8: Spearman Correlations between IES Scores and Time taken for Medico-legal resolution

		Horowitz Impact of Event Intrusive Score (0-35)	Horowitz Impact of Event Avoidance Score (0-40)	Horowitz Impact of Event Overall Score (0-75)	2. Longest time taken
Horowitz Impact of Event Intrusive Score (0-35)	Correlation Coefficient	1.000	.730**	.944**	.180
	Sig. (2-tailed)	.	.000	.000	.186
	N	56	56	56	56
Horowitz Impact of Event Avoidance Score (0-40)	Correlation Coefficient	.730**	1.000	.905**	.279*
	Sig. (2-tailed)	.000	.	.000	.037
	N	56	56	56	56
Horowitz Impact of Event Overall Score (0-75)	Correlation Coefficient	.944**	.905**	1.000	.233
	Sig. (2-tailed)	.000	.000	.	.084
	N	56	56	56	56
2. Longest time taken	Correlation Coefficient	.180	.279*	.233	1.000
	Sig. (2-tailed)	.186	.037	.084	.
	N	56	56	56	56

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

The important information in Table 4.8 is in the bottom row. The *p*-value for the relationship between the Intrusive Score and the longest time taken is .186, and the *p*-value for the relationship between the overall IES score and the longest time taken is .084. As both these *p*-values are above .05, there is no evidence of a relationship between the Intrusive Score and the Overall IES score with the longest time taken to resolve the medico-legal process.

The *p*-value for the relationship between the longest time taken and the Avoidance IES score is .037, indicating that there is moderate evidence of a relationship between the two variables. The Spearman correlation coefficient is .279, indicating a weak relationship. Figure 4.3 illustrates the relationship with a “jittered” scatter plot where a small amount of random noise is added to each point to allow viewing of points that directly overlay each other.

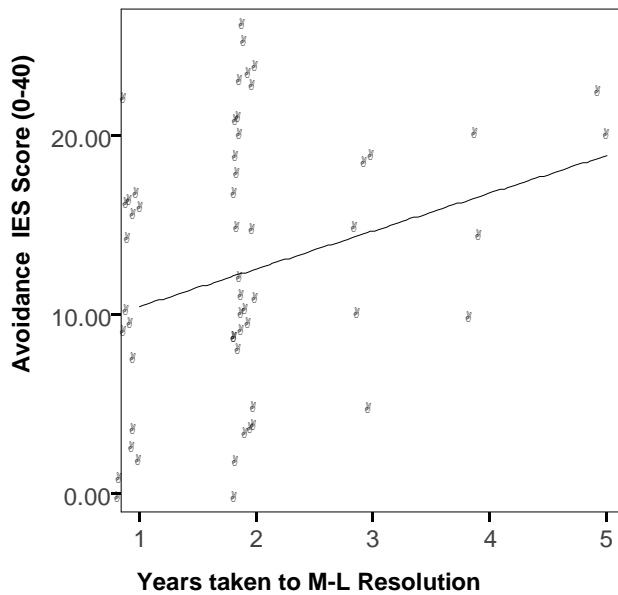


Figure 4.3 A jittered scatter plot of the relationship between the Avoidance IES scores and the time taken in years to resolve the M-L process.

The scale values of 1 to 5 on the horizontal axis of the scatter plot respectively represent less than 12 months, 1-2 years, 2-3 years, 3-4 years, and greater than 4 years. Each circle represents one specialist. The diagonal line is the least-squares best-fitting straight line for the points, which illustrates the tendency for Avoidance scores to increase as time taken to resolution increases.

To sum up, Hypothesis 4 is partially supported, as evidence of a relationship between the IES scores and resolution time could only be found for the Avoidance IES score.

4.1.5 Hypothesis 5.

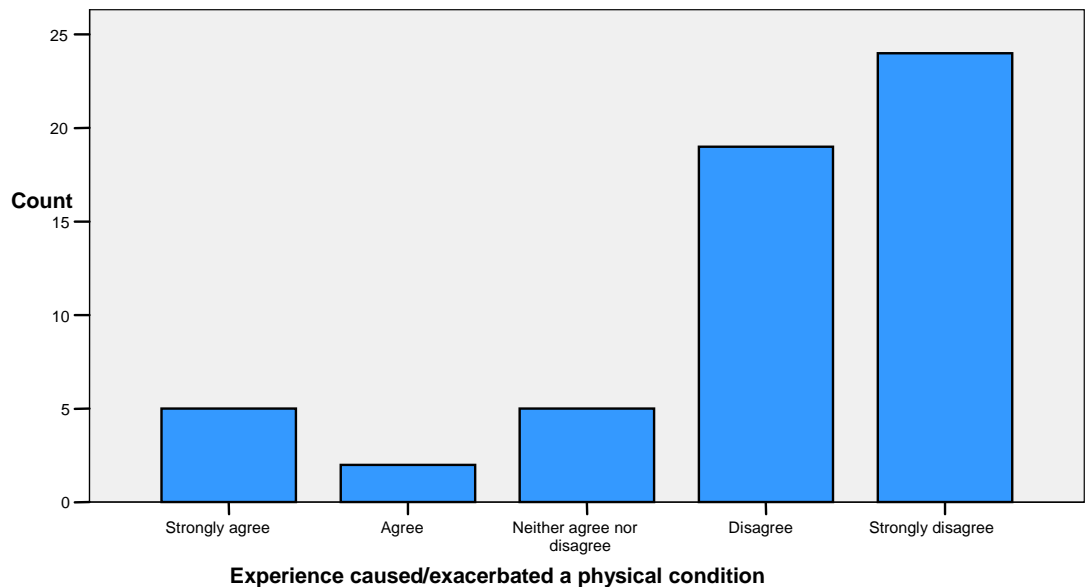
The fifth hypothesis states:

The greater the overall level of distress, the more the specialist will agree that the medico-legal process exacerbated or caused a physical or a psychological condition.

In Item 24 of the questionnaire, the specialists were asked whether they believed that their experience with the ‘most trying / difficult’ medico-legal situation had caused or exacerbated a physical condition (strain). Figure 4.4 shows the frequency response to

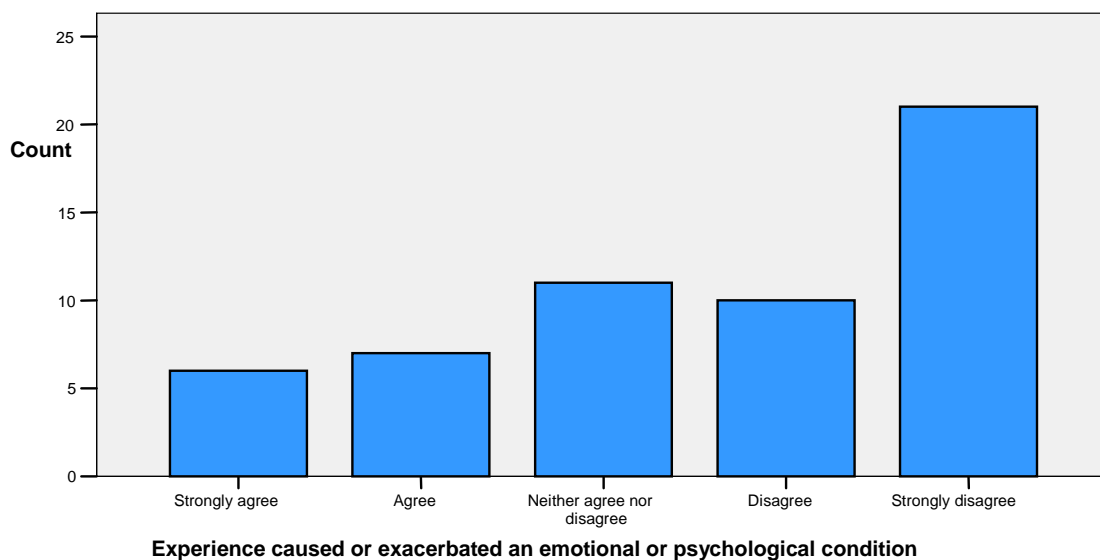
this question: five (9.1%) specialists strongly agreed with the statement; two (3.6%) specialists agreed; five (9.1%) specialists indicated a neutral response; 19 (34.5%) specialists disagreed and 24 (43.6%) strongly disagreed. One specialist did not respond to this question. Overall, there were seven specialists (12.7%) who strongly agreed / agreed that the medico-legal situation had affected their physical health.

Figure 4.4: Medico-legal Experience Caused or Exacerbated a physical condition



In Item 25, the specialists were asked whether they believed that their most trying medico-legal situation had caused or exacerbated an emotional or psychological condition (strain). Figure 4.5 shows the response to this item: six (10.9%) specialists strongly agreed with the statement; seven (12.7%) agreed; 11 (20.0%) were neutral; 10 (18.2%) specialists disagreed; and 21 (38.2%) strongly disagreed. One specialist did not respond to this item. Overall, 13 (23.6%) specialists strongly agreed / agreed that the medico-legal situation had affected their emotional / psychological health.

Figure 4.5: Medico-legal Experience Caused or Exacerbated an Emotional or Psychological Condition



To test Hypothesis 5, the descriptive data of the physical and emotional / psychological health impacts on specialists was used as variables, along with the levels of distress, as measured by the IES score. As the measures of exacerbation / cause are more or less ordinal variables, this hypothesis was tested with nonparametric correlation analysis. Table 4.9 shows the correlations among the relevant variables.

Table 4.9 Spearman’s Rho Correlation between IES Scores with Physical & Psychological Conditions

		Horowitz Impact of Event Intrusive Score (0-35)	Horowitz Impact of Event Avoidance Score (0-40)	Horowitz Impact of Event Overall Score (0-75)	24a. Experience caused/exacerbated a physical condition	25a. Experience caused or exacerbated an emotional or psychological condition
Horowitz Impact of Event Intrusive Score (0-35)	Correlation Coefficient	1.000	.730**	.944**	-.409**	-.436**
	Sig. (2-tailed)	.	.000	.000	.002	.001
	N	56	56	56	55	55
Horowitz Impact of Event Avoidance Score (0-40)	Correlation Coefficient	.730**	1.000	.905**	-.385**	-.496**
	Sig. (2-tailed)	.000	.	.000	.004	.000
	N	56	56	56	55	55
Horowitz Impact of Event Overall Score (0-75)	Correlation Coefficient	.944**	.905**	1.000	-.421**	-.488**
	Sig. (2-tailed)	.000	.000	.	.001	.000
	N	56	56	56	55	55
24a. Experience caused/exacerbated a physical condition	Correlation Coefficient	-.409**	-.385**	-.421**	1.000	.600**
	Sig. (2-tailed)	.002	.004	.001	.	.000
	N	55	55	55	55	55
25a. Experience caused or exacerbated an emotional or psychological condition	Correlation Coefficient	-.436**	-.496**	-.488**	.600**	1.000
	Sig. (2-tailed)	.001	.000	.000	.000	.
	N	55	55	55	55	55

** Correlation is significant at the .01 level (two-tailed).

The important information in Table 4.9 is in the bottom two rows, where both items measuring cause / exacerbation are correlated with all three IES scores, revealing that all the p -values are quite low, in the vicinity of .001. Figures 4.6 and 4.7 show the relationship between items 24 and 25 and the Overall IES scores.

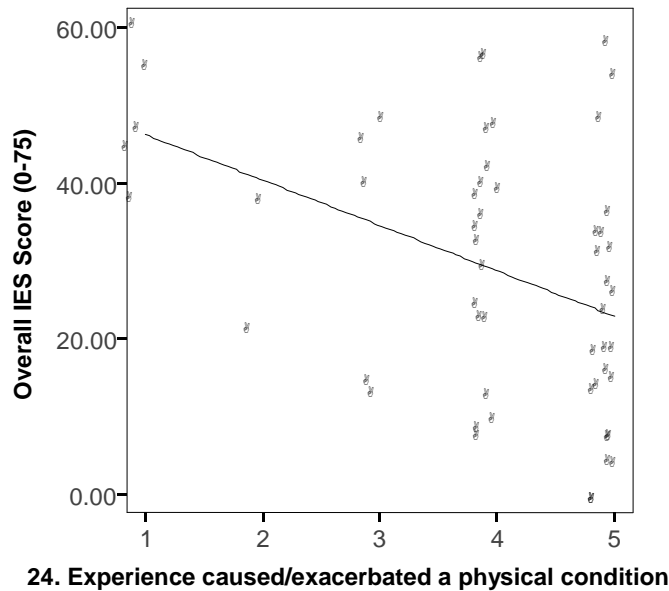


Figure 4.6: A jittered scatter plot illustrating the relationship between Overall IES scores and Physical Conditions. Increasing values on the horizontal axis indicate *decreasing* levels of agreement that the experience caused a physical condition. The diagonal line is the least-squares best-fitting straight line for the points

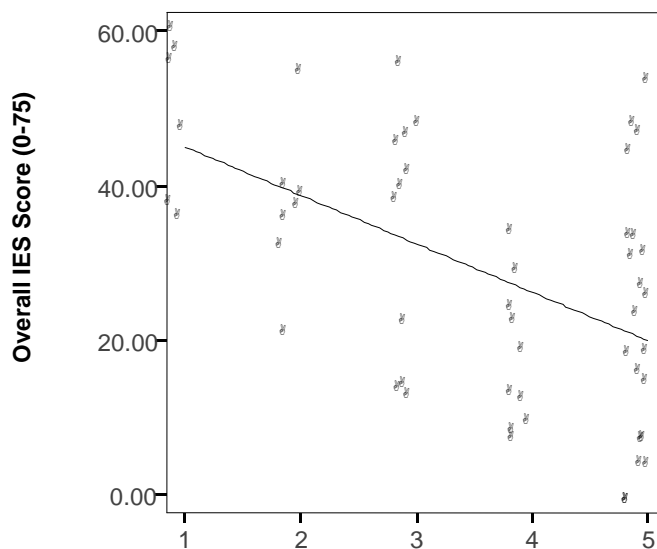


Figure 4.7: A jittered scatter plot illustrating the relationship between Overall IES scores and Emotional / Psychological Condition. Increasing values on the horizontal axis indicate *decreasing* levels of agreement that the experience caused a physical condition. The diagonal line is the least-squares best-fitting straight line for the points

To sum up, the results imply that Hypothesis 5 is supported in that the greater the Overall distress level, the more the specialist will agree that the medico-legal process exacerbated or caused a physical or a psychological condition.

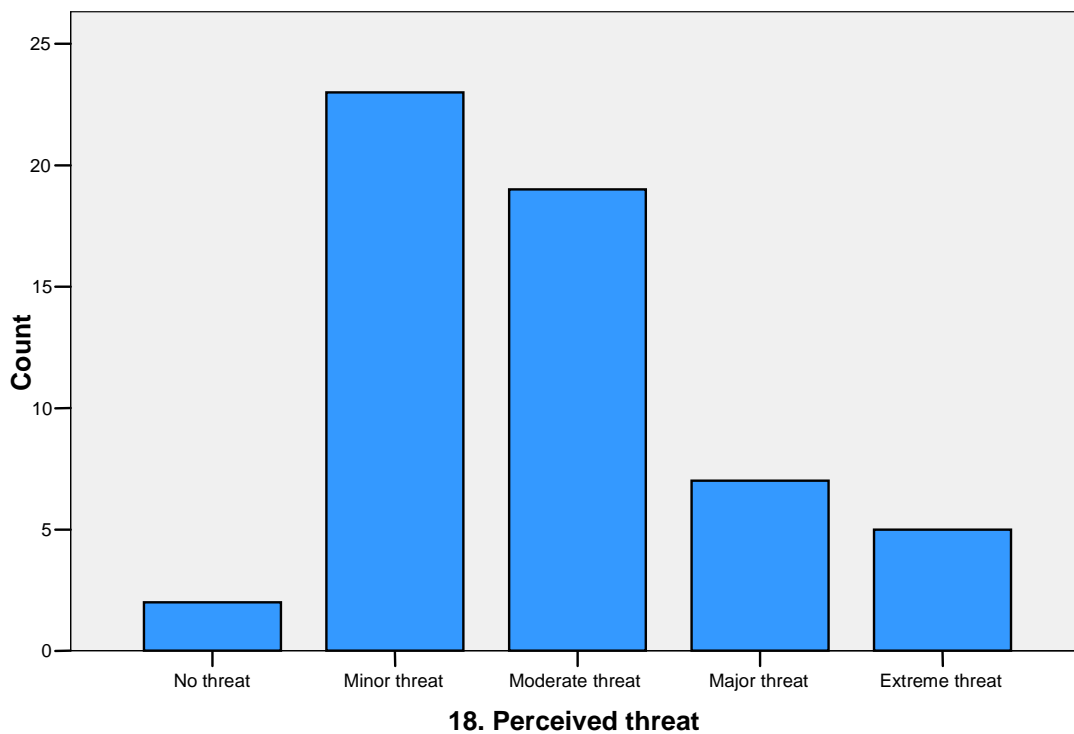
4.1.6 Hypothesis 6.

The sixth hypothesis states:

Levels of distress will be positively related to the cognitive appraisal of the extent of the perceived threat to professional identity and reputation.

Figure 4.8 provides the descriptive statistics for Item 18 of the questionnaire where specialists were asked to indicate to what extent their most difficult medico-legal situation was a perceived 'threat' to their professional identity and reputation.

Figure 4.8: Medico-legal Process as a Perceived Threat to Specialist Professional Identity & Reputation



A medico-legal process was perceived as no threat by two (3.6%) specialists; a minor threat by 23 (41.1%) specialists and as a moderate threat by 19 (33.9%) specialists. Out of the 56 participants, seven (12.5%) specialists perceived the medico-legal process as a major threat to their professional identity and reputation, while five (8.9%) classified it as an extreme threat.

As the measure of ‘threat’ is more or less an ordinal variable, Hypothesis 6 was tested with nonparametric correlation analysis. All tests were two-tailed. Table 4.10 shows the Spearman correlations between the IES scores and the perceived level of threat of the medico-legal process to a specialist’s professional identity and reputation.

Table 4.10: Spearman Correlations of IES Scores and Perceived Level of Threat

		Horowitz Impact of Event Intrusive Score (0-35)	Horowitz Impact of Event Avoidance Score (0-40)	Horowitz Impact of Event Overall Score (0-75)	18. Perceived threat
Horowitz Impact of Event Intrusive Score (0-35)	Correlation Coefficient	1.000	.730**	.944**	.672**
	Sig. (2-tailed)	.	.000	.000	.000
	N	56	56	56	56
Horowitz Impact of Event Avoidance Score (0-40)	Correlation Coefficient	.730**	1.000	.905**	.385**
	Sig. (2-tailed)	.000	.	.000	.003
	N	56	56	56	56
Horowitz Impact of Event Overall Score (0-75)	Correlation Coefficient	.944**	.905**	1.000	.595**
	Sig. (2-tailed)	.000	.000	.	.000
	N	56	56	56	56
18. Perceived threat	Correlation Coefficient	.672**	.385**	.595**	1.000
	Sig. (2-tailed)	.000	.003	.000	.
	N	56	56	56	56

** Correlation is significant at the 0.01 level (2-tailed).

The important information in Table 4.10 is in the bottom row, which reveals that perceived threat is correlated with all three IES scores, with all the *p*-values less than .0005. There is a strong correlation between the Intrusive score and perceived threat as well as the Overall IES score. There is a moderate positive correlation between the Avoidance score and the perceived threat of the medico-legal process.

Figure 4.9 shows the relationships between perceived threat and Overall IES scores as a scatter plot and the least- squares best-fitting straight for the points.

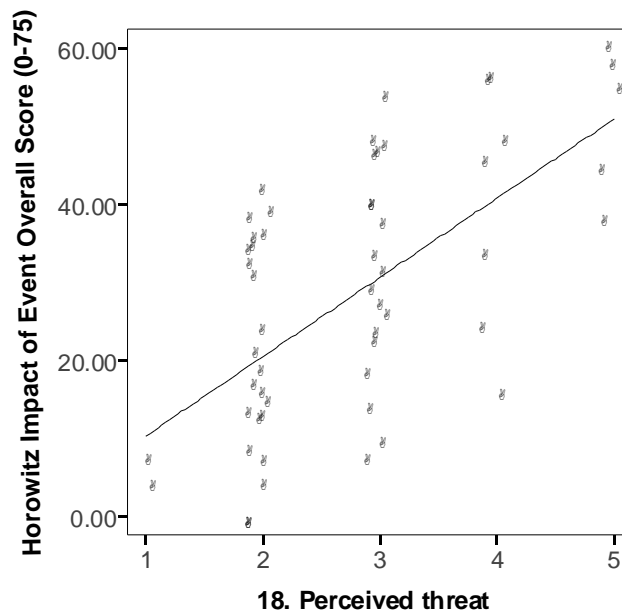


Figure 4.9: A jittered scatter plot illustrating the relationship between Overall IES scores and Perceived Threat.

Increasing values on the horizontal axis indicate increasing levels of Perceived Threat. The diagonal line is the least-squares best-fitting straight line for the points.

To sum up, Hypothesis 6 is supported in that there is a positive relationship between the level of distress experienced by a specialist and the perceived threat of the medico-legal situation to their professional identity and reputation.

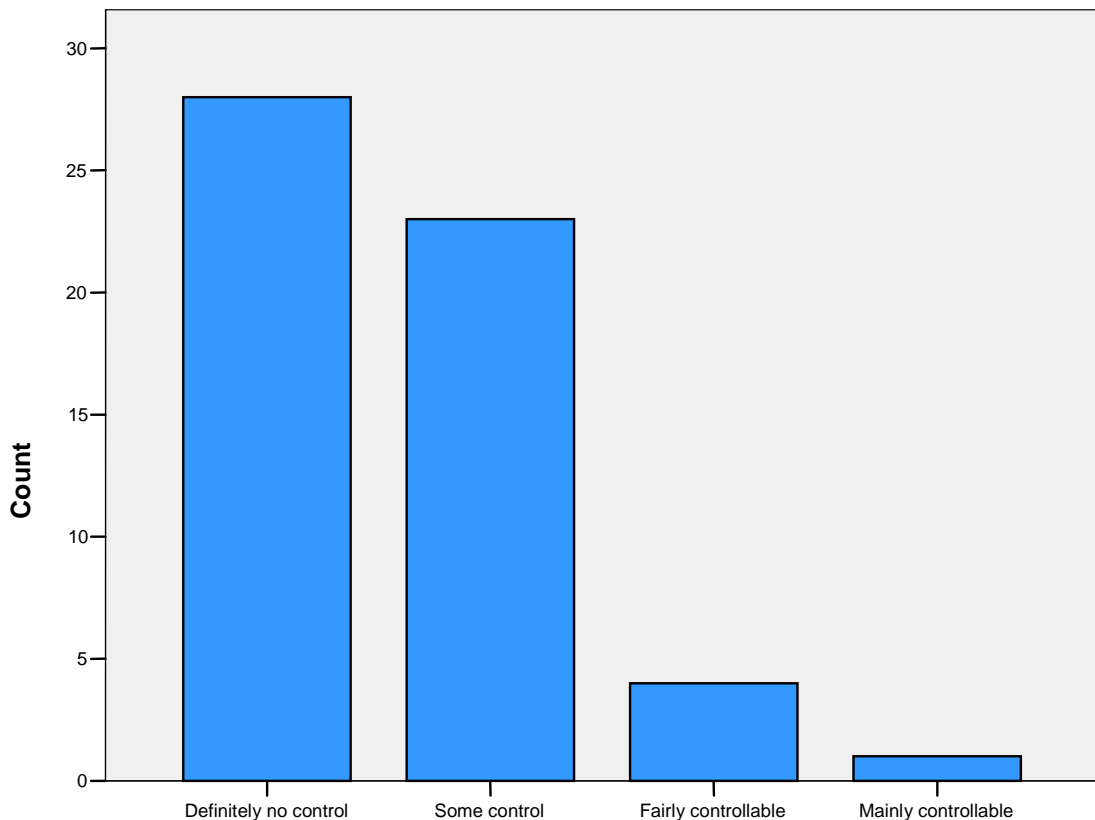
4.1.7 Hypothesis 7.

The seventh hypothesis states:

Levels of distress will be negatively related to the cognitive appraisal of the control/influence over the medico-legal process outcome.

To assess how the specialists cognitively appraised the *controllability* (Lazarus & Folkman, 1984) of their most trying medico-legal process, Item 19 asked to what extent they felt it was possible to control / influence the outcome of the process. Figure 4.10 shows the frequency distribution of the perceived control categories.

Figure 4.10: Distribution of Specialist’s Perceived Control over the Most Trying Medico-legal Process



19. Possible to Control Outcome

Regarding the perceived possibility of controlling the outcome of the medico-legal process, 28 (50.0%) specialists indicated they had ‘definitely no control’, 23 (41.1%) specialists felt they had ‘some control’, four (7.15) specialists felt the outcome was ‘fairly controllable’ while one (1.8%) specialist felt the outcome was ‘mainly controllable’. Note that no specialists considered the process as ‘definitely controllable’.

The response to Item 19 of the questionnaire resulted in a cumulative percentage of 91.1% of specialists with the perception that they had ‘definitely no control’ or ‘some control’ over the outcome of the process.

Correlation analysis was then undertaken with the above results of the perceived possibility of control over the medico-legal outcome and the IES scores. As the measure of possibility of control is more or less an ordinal variable, Hypothesis 7 was tested with nonparametric correlation analysis using Spearman Rank-Order Correlation. Table 4.11 shows the correlations among the relevant variables.

Table 4.11: Spearman Rank-Order Correlations of IES Scores and Perceived Possibility of Control over Medico-legal Outcome

		Horowitz Impact of Event Intrusive Score (0-35)	Horowitz Impact of Event Avoidance Score (0-40)	Horowitz Impact of Event Overall Score (0-75)	19. Possible to Control
Horowitz Impact of Event Intrusive Score (0-35)	Correlation Coefficient	1.000	.730**	.944**	-.015
	Sig. (2-tailed)	.	.000	.000	.913
	N	56	56	56	56
Horowitz Impact of Event Avoidance Score (0-40)	Correlation Coefficient	.730**	1.000	.905**	-.021
	Sig. (2-tailed)	.000	.	.000	.876
	N	56	56	56	56
Horowitz Impact of Event Overall Score (0-75)	Correlation Coefficient	.944**	.905**	1.000	-.035
	Sig. (2-tailed)	.000	.000	.	.798
	N	56	56	56	56
19. Possible to Control	Correlation Coefficient	-.015	-.021	-.035	1.000
	Sig. (2-tailed)	.913	.876	.798	.
	N	56	56	56	56

** Correlation is significant at the 0.01 level (two-tailed).

The important information in Table 4.11 is in the bottom row, which reveals no evidence that the perceived possibility to control the medico-legal outcome is correlated with any of the IES scores, with all the *p*-values greater than .05. The *p*-value for the Intrusive score and the variable of perceived control was .913, the *p*-value for the Avoidance score and perceived control was .876 while the *p*-value for the Overall IES score was .798.

A scatter plot of the relationship between the variables of the IES scores and the possibility to control the outcome was generated, and the almost horizontal line confirmed the lack of relationship. To sum up, this analysis found no evidence to support Hypothesis 7 that the greater the perceived control over the outcome of the medico-legal process, the lower the level of specialist distress. Thus Hypothesis 7 is refuted.

4.1.8 Hypothesis 8.

The eighth hypothesis states:

A death of a patient and appearance in the Coroner’s Court or Disciplinary Hearing will result in higher levels of specialist distress and a greater negative impact on physical, emotional conditions.

To test this hypothesis, a new binary variable was created from Item 3 (type of process including Coroner’s Court or Disciplinary Hearing) and Item 11 (whether the patient died). This variable indicated whether the patient died *and* the specialist was involved in the Coroner’s Court or a Disciplinary Hearing with regard to the incident. This variable identified three specialists who satisfied the condition. Unfortunately, this is not a very large number for analysis. This variable was used to define two groups in independent samples *t*-tests that compared the three IES scores for the two groups. Table 4.12 shows the means for the three IES scores for the two groups of specialists.

Table 4.12: Mean and Standard Deviations for Specialist IES Scores That had a Patient Death & Coroner’s Court or Disciplinary Hearing

	Patient Died & Coroner's Court	N	Mean	Std. Deviation	Std. Error Mean
Horowitz Impact of Event Intrusive Score (0-35)	No	53	15.6226	10.26238	1.40965
	Yes	3	26.6667	8.50490	4.91031
Horowitz Impact of Event Avoidance Score (0-40)	No	53	12.0566	7.11016	.97666
	Yes	3	22.0000	3.00000	1.73205
Horowitz Impact of Event Overall Score (0-75)	No	53	27.6792	16.13498	2.21631
	Yes	3	48.6667	10.26320	5.92546
24a. Experience caused/exacerbated a physical condition	No	52	4.13	1.103	.153
	Yes	3	1.67	1.155	.667
25a. Experience caused or exacerbated an emotional or psychological condition	No	3	3.63	1.372	.190
	Yes	3	3.00	2.000	1.155

The mean Intrusive IES score for the 53 specialists who have a ‘no’ value for a ‘death / inquest’ is 15.623 (*SD*=10.26). In contrast, the mean score for the three specialists who have a ‘yes’ value for ‘death / inquest’ is 26.667 (*SD*=8.5), which is clearly higher than the ‘no’ group. Likewise, the mean Avoidance score and Overall score for the ‘yes’ group of specialists was higher than the ‘no’ group of specialists. However, it cannot be concluded that the two means are significantly different until the *p*-values have been examined.

Table 4.13: Independent Samples Test for IES scores, Patient Death & Inquest, Physical & Emotional Conditions

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Horowitz Impact of Event Intrusive Score (0-35)	Equal variances assumed	.895	.348	-1.824	54	.074	-11.04403	6.05494	-23.18345	1.09540
	Equal variances not assumed			-2.162	2.343	.144	-11.04403	5.10864	-30.21398	8.12593
Horowitz Impact of Event Avoidance Score (0-40)	Equal variances assumed	3.480	.068	-2.393	54	.020	-9.94340	4.15491	-18.27349	-1.61330
	Equal variances not assumed			-5.001	3.461	.011	-9.94340	1.98843	-15.82072	-4.06607
Horowitz Impact of Event Overall Score (0-75)	Equal variances assumed	1.714	.196	-2.216	54	.031	-20.98742	9.46938	-39.97239	-2.00245
	Equal variances not assumed			-3.317	2.597	.056	-20.98742	6.32638	-43.01026	1.03542
24a. Experience caused/exacerbated a physical condition	Equal variances assumed	.042	.839	3.761	53	.000	2.468	.656	1.152	3.784
	Equal variances not assumed			3.608	2.216	.059	2.468	.684	-.217	5.153
25a. Experience caused or exacerbated an emotional or psychological condition	Equal variances assumed	.122	.728	.763	53	.449	.635	.832	-1.034	2.303
	Equal variances not assumed			.542	2.110	.639	.635	1.170	-4.157	5.426

The results for the prior Levene's test for equality of variances and then the independent samples *t*-test are shown in Table 4.13. All tests were two-tailed. The *p*-values in the Levene's test are all greater than .05 and thus there is no evidence that the assumption of homogeneity of variance is violated. The relevant *p*-values can be viewed, then, in the 'Equal variances assumed'.

Table 4.13 shows that in the case of Intrusive scores, $t(54) = -1.82$ and $p = .07$. So despite the wide difference found earlier between the two means, it cannot be concluded that there is a significant difference between those specialists who had a death and a coroner's inquest /hearing and those who did not. In the case of Avoidance scores, $t(54) = -2.39$ and $p = .02$; in the case of Overall scores, $t(54) = -2.22$ and $p = .03$. In the case of exacerbating a physical condition, $t(53) = 3.76$ and $p < .001$; and for exacerbating a psychological condition, $t(53) = .76$ and $p = .45$.

Figures 4.11, 4.12 and 4.13 show the mean IES scores for those findings that are significant.

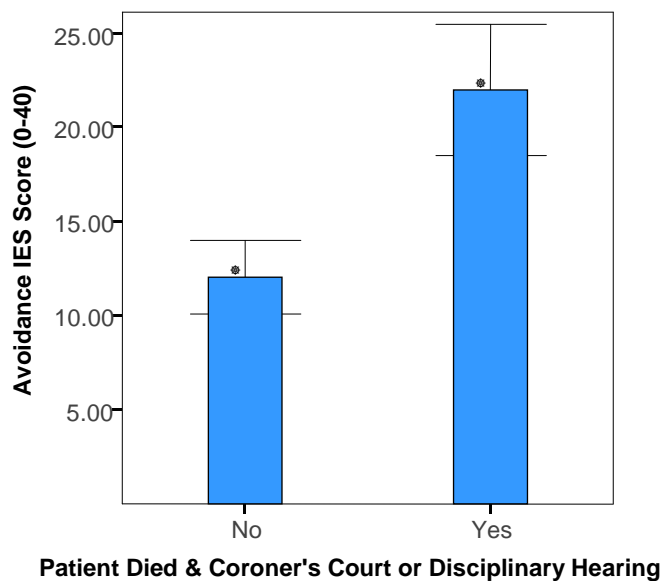


Figure 4.11: A Bar Chart showing Avoidance IES scores for Specialist Groups With and Without a Patient Death

The error bars show two standard errors of the mean

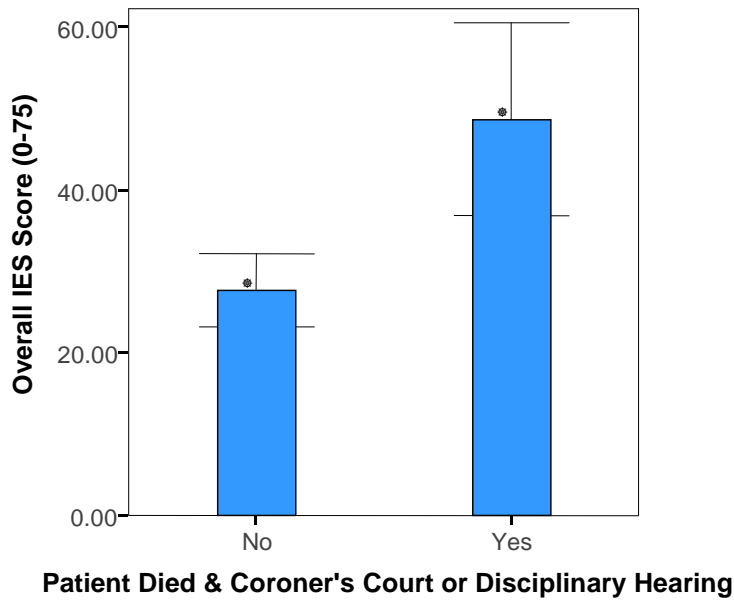


Figure 4.12: Bar Chart showing Overall IES Scores for Specialist Groups With and Without a Patient Death

The error bars show two standard errors of the mean.

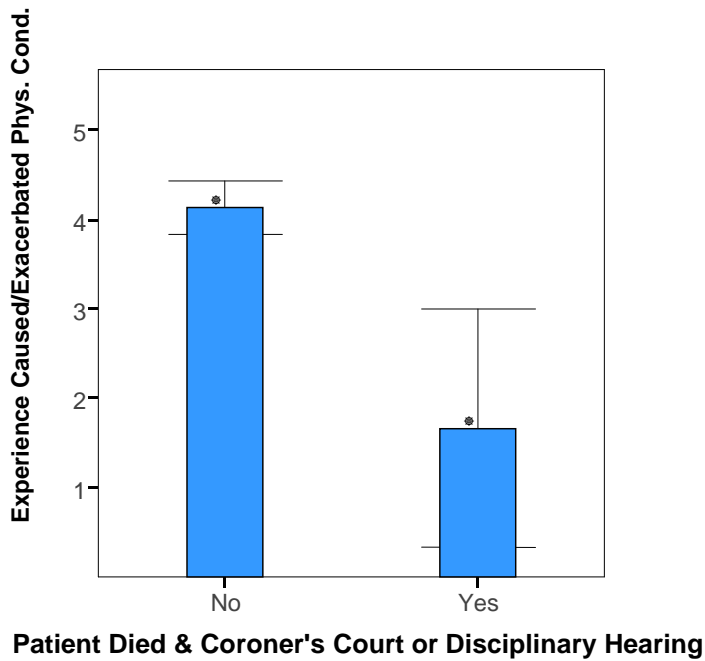


Figure 4.13: A Bar Chart Showing Average Agreement that the M-L Experience Exacerbated a Physical Condition for Specialist Groups With and Without a Patient Death

A value of 1 on the vertical axis is associated with “strongly agree” and a value of 5 is associated with “strongly disagree”. The error bars show two standard errors of the mean.

To sum up, Hypothesis 8 is supported in the case of the Avoidance and Overall IES scores and in the case of exacerbating / causing a physical condition, **but not** in the case of the Intrusive score and exacerbating / causing an emotional condition. This lack of significance may be due to the very small number of specialists in this study who had a patient death and a Coroner’s Inquest / Disciplinary Hearing.

4.1.9 Hypothesis 9.

The ninth hypothesis states:

Specialists will not discuss with employers / hospital management the issue of possible stress during the medico-legal process.

This hypothesis was not tested statistically; instead, the responses to Item 16 on the questionnaire were tabulated in Table 4.14. Item 16 states: ‘For this M-L situation, did you discuss with your employer / hospital management the issue of possible stress and the impact that this may have on you professionally and personally?’

Table 4.14: Specialist Discussion with Employer/Management Regarding Possible Stress of a Medico-legal Process

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	8	14.3	14.3	14.3
	No	48	85.7	85.7	100.0
	Total	56	100.0	100.0	

It was found that eight (14.3%) of the 56 specialists answered ‘Yes’ to this item and 48 (85.7%) answered that they did not discuss the medico-legal situation with their employer / hospital manager. Thus Hypothesis 9 is rejected.

The questionnaire explored the reasons why the specialist did not discuss the issue of stress with their employer. If the responding specialist had answered ‘No’ to Item 16, they were asked to indicate the reasons (by marking seven options, with number seven being “other reasons”) as to why they had not discussed the possibility of stress with their employer / management. Table 4.15 shows the frequency of these reasons.

Table 4.15: Reasons given for Specialists Not Discussing Stress Issue with Management

Reason for not Discussing Issue	Frequency (n = 56)	Percent (%)
Did not feel stressed by the process	38	67.9
Concerned about confidentiality	7	12.5
Could be disadvantageous to my career	12	21.4
May be seen as a sign of weakness	11	19.6
May affect my financial position	3	5.4
Could be disadvantageous in obtaining insurance cover	3	5.4

Of the 48 specialists who did not discuss the issue of possible medico-legal stress with their employer or hospital manager, 38 (67.9%) indicated they did not feel stressed by the process; seven (12.5%) were concerned about confidentiality and 12 (21.4%) thought that discussing the possibility of stress might be disadvantageous to their careers. Discussing the possibility of medico-legal stress was perceived by 11 (19.6%) specialists to be seen as a sign of weakness by their employer / hospital management. Only three (5.4%) specialists indicated that discussions with employers might affect their financial position and insurance cover.

The seventh option, allowing the specialist to include ‘other reasons’ for not discussing the possibility of medico-legal stress was completed by 29 (51.8%) specialists. In this option, five specialists indicated that the medico-legal situation had arisen within their private practice. These ‘other comments’ will be discussed in the following chapter, Chapter Five.

4.1.10 Hypothesis 10.

The tenth hypothesis states:

Specialists with mild to moderate levels of distress will not request stress or sick leave during the medico-legal process.

This hypothesis was not tested statistically however, the results of the responses to Items 15a and 15b on the questionnaire were grouped and then tabulated with the IES scores. Item 15a asks ‘Did this Medico-Legal situation cause you to take stress leave?’ and item 15b asks ‘Did this Medico-Legal situation cause you to take sick leave?’ Table 4.16 shows the results of the tabulation.

Table 4.16: Requests for Sick / Stress Leave According to IES Category

		Horowitz Category		
		Subclinical Stress	Mild to Moderate Stress	Moderate or Severe Stress
		Count	Count	Count
Did Specialist Request Stress / Sick Leave	No	8	16	31
	Yes		1	

Table 4.16 indicates that only one specialist requested stress leave or sick leave, and this specialist was in the 'Mild to Moderate' Stress category. Thus Hypothesis 10 is rejected.

4.1.11 Sub-problem One: Part B - Impact on Spousal / Partner Relationship

The researcher could find no quantitative studies on this topic so a hypothesis was not formulated. Instead, this was explored in the questionnaire in Items 26, 27 and 28.

Item 26 asked 'If you had a spouse / partner during the time of this medico-legal situation, what was the impact on your relationship?' To understand the impact on the spousal / partner relationship, the responses to Item 26 were tabulated in Table 4.17.

Table 4.17: Impact of a Medico-legal Process on Specialists Spousal / Partner Relationships

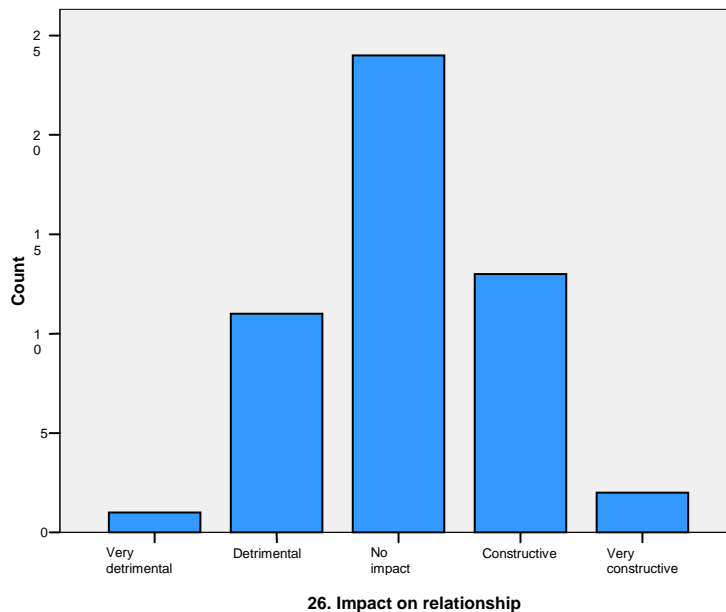
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very detrimental	1	1.8	2.0	2.0
	Detrimental	11	19.6	21.6	23.5
	No impact	24	42.9	47.1	70.6
	Constructive	13	23.2	25.5	96.1
	Very constructive	2	3.6	3.9	100.0
	Total	51	91.1	100.0	
Missing	N/A	4	7.1		
	Not Answered	1	1.8		
	Total	5	8.9		
Total		56	100.0		

From Table 4.17, one specialist (1.8%) indicated that their most trying medico-legal process had a 'very detrimental' impact on their spousal relationship and 11 (19.6%) specialists indicated that the impact was 'detrimental'. The cumulative percentage for these two categories is 23.5%. For the majority of specialists (42.9%), the medico-legal process had 'no impact' on their spousal relationship. In contrast, 13

(23.2%) specialists indicated a ‘constructive’ impact and two (3.6%) responded that the process had been ‘very constructive’ for the spousal / partner relationship.

Figure 4.14 gives a graphical representation of the frequency response to the medico-legal impact on spousal / partner relationships.

Figure 4.14: Specialist Perceptions of Medico-legal Impact on Spouse / Partner Relationships



Of the 50 specialists with a spouse / partner during their most trying medico-legal process, only one specialist indicated that support was offered to their spouse / partner. This result for Item 27 is summarised in Table 4.18.

Table 4.18: Support to Spouse/ Partner during a Medico-legal Process

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	1	1.8	2.0	2.0
	No	49	87.5	98.0	100.0
	Total	50	89.3	100.0	
Missing	N/A	5	8.9		
	Not Answered	1	1.8		
	Total	6	10.7		
Total		56	100.0		

For this Item 27 in the questionnaire, 14 specialists made comments on the impact the medico-legal process had on their relationships. These will be further discussed in the next chapter, Chapter Five.

4.2 Section Two: Social Support and Medico-legal Stress (Sub-problem Two)

This section deals with the results for the two principal research questions for Sub-problem Two. The first question is *'To what extent were the types of support (emotional / instrumental) and the source of support important to medical specialists during a medico-legal process and how satisfied were they with the support received?'* There are three hypotheses associated with this question – Hypotheses 11 -13.

Firstly, a summary of the descriptive statistics for the importance / satisfaction of emotional and instrumental support are presented in Table 4.19 to Table 4.22. These descriptive statistics are used for the inferential statistics for Hypotheses 11 -13 and will be further discussed in the section on the Importance-Performance Analysis (IPA).

4.2.1 Descriptive Statistics for Social Support of NZ Specialists during a Medico-legal Process

Table 4.19 below shows the sources of **emotional** support - (a) to (v) - ranked by the mean importance of the specialist responses for each source. Spouses, colleagues and legal counsel were the highest ranking in terms of *importance* of emotional support.

Table 4.19: Mean Importance of Emotional Support in Decreasing Order of Importance for Specialists

Source of Support	Importance of Emotional Support
a. Spouse	3.78
d. Immediate colleagues	3.48
f. Colleagues with Similar experience	2.94
e. Other Specialist Colleagues	2.71
r. Legal Counsel	2.50
c. Close Friends	2.15
h. Immediate Hospital Management	1.96
g. Colleagues in Private Practice	1.91
u. Insurer	1.87
m. Other Staff (eg Nurses)	1.72
b. Extended Family	1.63
o. Hospital Senior Management	1.61
n. Specialist Association	1.43
q. Private Counsellor	1.37
j. Hospital HR Managers	1.26
p. General Practitioner	1.26
s. Religious Leader	1.26
k. Hospital Counselling Service	1.22
t. Union Representative	1.19
v. Other	1.15
l. Private Hospital Management	1.11
o. Drs Health Advisory Service	1.09

Table 4.20 shows the sources of emotional support ranked by the specialists' mean *satisfaction*.. Satisfaction with the emotional source 'Other' is an outlier as only one of the 56 respondents rated this as 'Extremely satisfied', 48 specialists did not access this source of support and the remaining seven specialists did not answer / rate it at all.

Table 4.20: Mean Satisfaction of Emotional Support in Decreasing Order of Satisfaction for Specialists

Source of Support	Satisfaction with Emotional Support
v. Other	5.00
a. Spouse	4.11
q. Private Counsellor	3.71
r. Legal Counsel	3.61
f. Colleagues with Similar experience	3.43
b. Extended Family	3.43
u. Insurer	3.38
d. Immediate colleagues	3.33
c. Close Friends	3.25
s. Religious Leader	3.14
r. Hospital Counselling Service	3.14
p. General Practitioner	3.11
e. Other Specialist Colleagues	3.00
l. Private Hospital Management	3.00
o. Drs Health Advisory Service	3.00
m. Other Staff (eg Nurses)	2.95
g. Colleagues in Private Practice	2.85
t. Union Representative	2.75
n. Specialist Association	2.63
h. Immediate Hospital Management	2.50
i. Hospital Senior Management	2.00
j. Hospital HR Managers	1.46

The importance and satisfaction ranking of specialist emotional support, including the discrepancies between these, will be discussed further in the section on Importance-Performance Analysis (IPA)

Regarding **instrumental** support, the mean *importance* of instrumental support from the 22 sources was calculated and the ranking of these sources, in decreasing order of importance, is shown in Table 4.21.

Table 4.21: Mean Importance of Instrumental Support in Decreasing Order of Importance for Specialists

Source of Support	Importance of Instrumental Support
d. Immediate colleagues	3.12
a. Spouse	3.06
r. Legal Counsel	2.82
f. Colleagues with Similar experience	2.77
e. Other Specialist Colleagues	2.13
u. Insurer	2.06
h. Immediate Hospital Management	1.94
c. Close Friends	1.84
b. Extended Family	1.71
i. Hospital Senior Management	1.65
g. Colleagues in Private Practice	1.65
m. Other Staff (eg Nurses)	1.47
n. Specialist Association	1.43
q. Private Counsellor	1.35
j. Hospital HR Managers	1.27
p. General Practitioner	1.22
r. Hospital Counselling Service	1.16
t. Union Representative	1.16
v. Other	1.08
l. Private Hospital Management	1.06
s. Religious Leader	1.06
o. Drs Health Advisory Service	1.02

Instrumental support involves providing advice and information concerning the medico-legal process, so it is not surprising that ‘legal counsel’ and specialist colleagues as a group are ranked highly in importance. The ‘spouse / partner’ is ranked second and appears to be a very important source of both emotional and instrumental support for specialists.

Table 4.22 shows the sources of **instrumental** support ranked by mean *satisfaction* according to the specialist responses for each source.

Table 4.22: Mean Satisfaction of Instrumental Support in Decreasing Order of Satisfaction for Specialists

Source of Support	Satisfaction with Instrumental Support
v. Other	5.00
a. Spouse	4.03
q. Private Counsellor	4.00
s. Religious Leader	4.00
r. Legal Counsel	3.88
u. Insurer	3.59
d. Immediate colleagues	3.54
f. Colleagues with Similar experience	3.45
b. Extended Family	3.24
c. Close Friends	3.19
e. Other Specialist Colleagues	3.10
g. Colleagues in Private Practice	3.00
m. Other Staff (eg Nurses)	2.93
r. Hospital Counselling Service	2.67
h. Immediate Hospital Management	2.57
t. Union Representative	2.50
p. General Practitioner	2.33
n. Specialist Association	2.25
l. Private Hospital Management	2.00
i. Hospital Senior Management	1.84
j. Hospital HR Managers	1.70
o. Drs Health Advisory Service	1.00

Satisfaction with the instrumental source ‘Other’ is an outlier as only one respondent out of the 56 rated this as ‘Extremely satisfied’, 48 specialists did not access this source of support and the remaining seven specialists did not answer / rate this source of emotional support. Satisfaction with the instrumental support of the spouse was the highest. Hospital management, including HR Managers, was near the bottom of the satisfaction ranking.

The importance and satisfaction ranking of specialist instrumental support, including the discrepancies between these, will be discussed further in the section on Importance-Performance Analysis (IPA)

4.2.2 Hypothesis 11.

The eleventh hypothesis states:

The importance of emotional support will be negatively related to the perceived control over the outcome of the medico-legal process.

In Cutrona's (1990) optimal matching theory of support, the most influential dimension is that of the controllability of stressors. When events are uncontrollable, Cutrona (1990) predicts that the most optimal match is emotional support that will minimise the negative emotional reactions to the event. To test this theory in the context of a NZ medico-legal process, specialists were asked to rate how important emotional support from 22 sources was in Item 20 of the questionnaire.

Hypothesis 11 was then tested by computing Spearman correlations between the importance scores for each type of emotional support (from Item 20) with the scores from Item 19. Item 19 states: "With the most trying/difficult Medico-Legal situation in mind, to what extent did you feel it was possible to control / influence the outcome of the process?" The frequencies for Item 19 are shown in Table 4.23 (Note: This data has been discussed previously in relation to Hypothesis 7 in section 4.1.7).

Table 4.23: Response Frequencies for the Possibility of Controlling the Outcome of The Medico-legal Process

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Definitely no control	28	50.0	50.0	50.0
	Some control	23	41.1	41.1	91.1
	Fairly controllable	4	7.1	7.1	98.2
	Mainly controllable	1	1.8	1.8	100.0
	Total	56	100.0	100.0	

Table 4.24 shows the Spearman correlations between the importance of emotional support and the possibility of controlling the medico-legal outcome.

Table 4.24: Spearman's Correlations between the Importance of Emotional Support & the Possibility of Control of the Medico-legal Outcome

Spearman's rho		19. Possible to Control
20a Importance of spouse or partner's emotional support	Correlation Coefficient	.028
	Sig. (2-tailed)	.841
	N	55
20b Importance of extended family emotional support	Correlation Coefficient	.142
	Sig. (2-tailed)	.306
	N	54
20c Importance of close friends' emotional support	Correlation Coefficient	-.155
	Sig. (2-tailed)	.263
	N	54
20d Importance of immediate colleagues' emotional support	Correlation Coefficient	-.001
	Sig. (2-tailed)	.994
	N	54
20e Importance of other specialist colleagues' emotional support	Correlation Coefficient	.055
	Sig. (2-tailed)	.688
	N	55
20f Importance of emotional support of colleagues who have been through a similar process	Correlation Coefficient	-.027
	Sig. (2-tailed)	.848
	N	54
20g Importance of colleagues in private practice emotional support	Correlation Coefficient	.286(*)
	Sig. (2-tailed)	.036
	N	54
20h Importance of immediate hospital management emotional support	Correlation Coefficient	.058
	Sig. (2-tailed)	.675
	N	54
20i Importance of senior hospital management emotional support	Correlation Coefficient	.125
	Sig. (2-tailed)	.367
	N	54
20j Importance of hospital human resources managers' emotional support	Correlation Coefficient	-.012
	Sig. (2-tailed)	.932
	N	54
20k Importance of hospital counselling service emotional support	Correlation Coefficient	-.200
	Sig. (2-tailed)	.146
	N	54
20l Importance of private hospital management emotional support	Correlation Coefficient	.050
	Sig. (2-tailed)	.718
	N	54

Table 4.24: continued

Spearman's rho		19. Possible to Control
20m Importance of other staff (e.g., nurses) emotional support	Correlation Coefficient	-.016
	Sig. (2-tailed)	.909
	N	54
20n Importance of specialists' association or college emotional support	Correlation Coefficient	-.112
	Sig. (2-tailed)	.422
	N	54
20o Importance of Doctors' Health Advisory Service emotional support	Correlation Coefficient	-.092
	Sig. (2-tailed)	.511
	N	53
20p Importance of general practitioners' emotional support	Correlation Coefficient	.026
	Sig. (2-tailed)	.852
	N	54
20q Importance of private counsellors' or psychologists' emotional support	Correlation Coefficient	.076
	Sig. (2-tailed)	.587
	N	54
20r Importance of legal counsels' emotional support	Correlation Coefficient	.049
	Sig. (2-tailed)	.726
	N	54
20s Importance of religious leaders' emotional support	Correlation Coefficient	-.117
	Sig. (2-tailed)	.401
	N	54
20t Importance of union representatives' emotional support	Correlation Coefficient	.097
	Sig. (2-tailed)	.484
	N	54
20u Importance of insurance providers' emotional support	Correlation Coefficient	.042
	Sig. (2-tailed)	.764
	N	53
20v Importance of others' emotional support	Correlation Coefficient	.167
	Sig. (2-tailed)	.232
	N	53

* Correlation is significant at the 0.05 level (2-tailed).

Only Item 20g was found to be correlated with Item 19, with a modestly significant *p*-value of .04 and with a Spearman correlation coefficient of .29. Figure 4.15 shows the relationship between Items 19 and 20g.

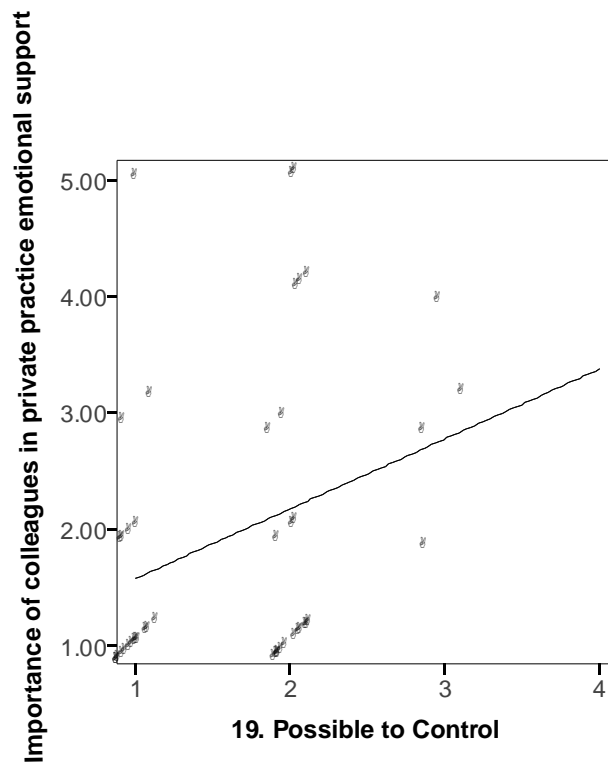


Figure 4.15: A jittered scatter plot illustrating the relationship between items 20g - Importance of Emotional support of private colleagues and item 19 – Perceived Controllability of medico-legal outcome.

Increasing values on the horizontal axis indicate increasing levels of perceived control; 1 is ‘Definitely no control’ and 5 is ‘Definitely Controllable’.

The increasing values on the vertical axis indicate increasing importance.

The diagonal line is the least-squares best-fitting straight line for the points.

A *p*-value that is less than .05 can be expected one time in twenty, even if there is no relationship between two variables (Rowntree, 2004: 142). Since Table 4.24 has twenty-two *p*-values, it seems quite likely that the significant relationship between Items 20g (emotional support from colleagues in private practice) and Item 19 is a fluke and does not reflect a real relationship between the variables. The scatter plot in Figure 4.15 also suggests the presence of a relationship but this still may be a fluke. To test this would require the research to be repeated.

To sum up, it would appear that there is no support for Hypothesis 11. However, a similar ‘fluke’ regarding the importance of instrumental support from colleagues in private practice was obtained for Hypothesis 12 (the next hypothesis). Thus, it would appear that Hypothesis 11 is in fact partially supported.

4.2.3 Hypothesis 12.

The twelfth hypothesis states:

The importance of instrumental support will be positively related to the perceived controllability over the outcome of the process.

As was discussed in the literature review, if a situation or event is perceived to be controllable then the most appropriate actions would be ‘problem-focused coping’ strategies (Lazarus & Folkman. 1984), which would require ‘instrumental support’ including information and tangible assistance (Cutrona 1990). To further test Cutrona’s (1990) optimal matching theory of support in a context of NZ medico-legal stress, Hypothesis 12 was formulated, this time dealing with the importance of instrumental support and perceived controllability.

This hypothesis was tested by computing Spearman correlations between the importance scores for each type of instrumental support with the scores from Item 19. Item 19 states “With the most trying/difficult Medico-Legal situation in mind, to what extent did you feel it was possible to control / influence the outcome of the process?” All tests were two-tailed.

Table 4.25 shows the Spearman correlations between the importance of instrumental support and the possibility of controlling the medico-legal outcome.

Table 4.25: Correlations between the Importance of Specialist Instrumental Support and their Perceived Possibility of Controlling the Medico-legal Outcome

			19. Possible to Control
Spearman's rho	22a Importance of spouse or partner's instrumental support	Correlation Coefficient	.156
		Sig. (2-tailed)	.275
		N	51
	22b Importance of extended family instrumental support	Correlation Coefficient	.216
		Sig. (2-tailed)	.128
		N	51
	22c Importance of close friends' instrumental support	Correlation Coefficient	.045
		Sig. (2-tailed)	.756
		N	51

		19. Possible to Control
22d Importance of immediate colleagues' instrumental support	Correlation Coefficient	.139
	Sig. (2-tailed)	.327
	N	52
22e Importance of other specialist colleagues' instrumental support	Correlation Coefficient	.165
	Sig. (2-tailed)	.241
	N	52
22f Importance of instrumental support of colleagues who have been through a similar process	Correlation Coefficient	.159
	Sig. (2-tailed)	.260
	N	52
22g Importance of colleagues in private practice instrumental support	Correlation Coefficient	.305(*)
	Sig. (2-tailed)	.030
	N	51
22h Importance of immediate hospital management instrumental support	Correlation Coefficient	.176
	Sig. (2-tailed)	.227
	N	49
22i Importance of senior hospital management instrumental support	Correlation Coefficient	.238
	Sig. (2-tailed)	.100
	N	49
22j Importance of hospital human resources managers' instrumental support	Correlation Coefficient	.159
	Sig. (2-tailed)	.274
	N	49
22k Importance of hospital counselling service instrumental support	Correlation Coefficient	-.075
	Sig. (2-tailed)	.608
	N	49
22l Importance of private hospital management instrumental support	Correlation Coefficient	-.004
	Sig. (2-tailed)	.976
	N	49
22m Importance of other staff (e.g., nurses) instrumental support	Correlation Coefficient	-.009
	Sig. (2-tailed)	.953
	N	49
22n Importance of specialists' association or college instrumental support	Correlation Coefficient	.071
	Sig. (2-tailed)	.629
	N	49

		19. Possible to Control
22o Importance of Doctors' Health Advisory Service instrumental support	Correlation Coefficient	-.138
	Sig. (2-tailed)	.345
	N	49
22p Importance of general practitioners' instrumental support	Correlation Coefficient	.157
	Sig. (2-tailed)	.281
	N	49
22q Importance of private counsellors' or psychologists' instrumental support	Correlation Coefficient	.106
	Sig. (2-tailed)	.469
	N	49
22r Importance of legal counsels' instrumental support	Correlation Coefficient	.029
	Sig. (2-tailed)	.846
	N	49
22s Importance of religious leaders' instrumental support	Correlation Coefficient	-.197
	Sig. (2-tailed)	.175
	N	49
22t Importance of union representatives' instrumental support	Correlation Coefficient	.072
	Sig. (2-tailed)	.623
	N	49
22u Importance of insurance providers' instrumental support	Correlation Coefficient	.051
	Sig. (2-tailed)	.725
	N	50
22v Importance of others' instrumental support	Correlation Coefficient	.125
	Sig. (2-tailed)	.384
	N	51

* Correlation is significant at the 0.05 level (2-tailed).

Only Item 22g in Table 4.25 above was found to be correlated with Item 19, with a modestly significant p -value of .03 and with a Spearman correlation coefficient of .30. As in Hypothesis 11, one can expect a p -value that is less than .05 one time in twenty, even if there is no relationship between the two variables. The fact that there is a similar result for Item 22g (Importance of *instrumental* support of colleagues in private practice) as in the previous Hypothesis 11 (Importance of *emotional* support of colleagues in private practice) makes it much less likely that the same 'fluke' was obtained twice.

Figure 4.16 shows the relationship between Items 19 and 22g.

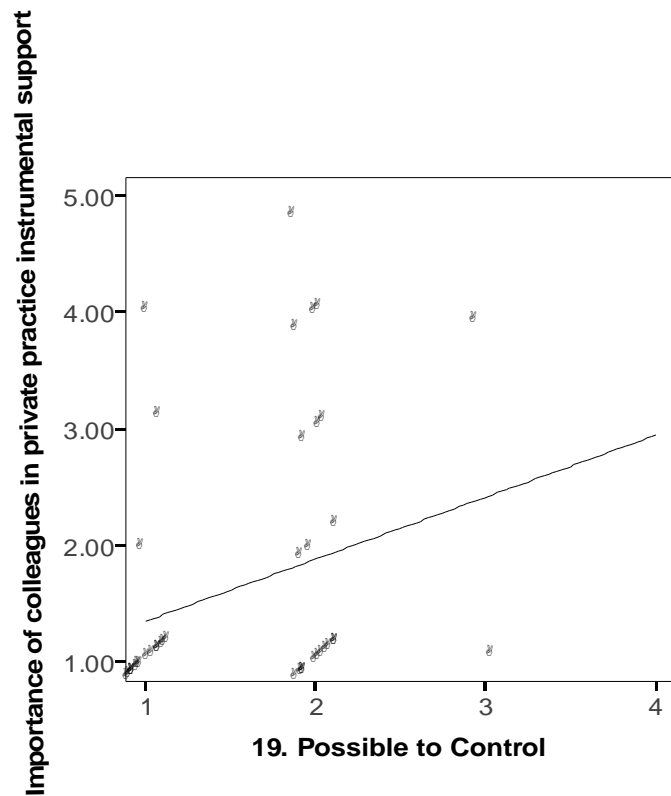


Figure 4.16: A jittered scatter plot illustrating the relationship between items 22g – Importance of Instrumental Support of colleagues in Private Practice and item 19 - Perceived Controllability of medico-legal outcome. Increasing values on the horizontal axis indicate increasing levels of perceived control; 1 is ‘Definitely no control’ and 5 is ‘Definitely Controllable’. Increasing values on the vertical axis indicate increasing importance. The diagonal line is the least-squares best-fitting straight line for the points.

To sum up, the above shows that Hypothesis 12 is partially supported only in respect of *importance* of instrumental support from colleagues in private practice.

4.2.4 Hypothesis 13.

The thirteenth hypothesis states:

Specialists will place higher importance on, and be more satisfied with collegial support than organisational support during a medico-legal process.

The literature review identified that another important aspect of Cutrona’s (1990) optimal matching theory is ‘esteem support’, which provides reassurance to the individual that they have the competence and ability to cope with the stressful situation. Through peer review strategies, doctors appear to take other doctors as their primary reference point for achievement (Kaissi, 2005; 165). Thus, in the context of a NZ medico-legal situation, Hypothesis 13 was formulated such that specialists would rate

the importance of collegial support (for esteem support) higher than that of organisational support.

To address this hypothesis, the importance scores of emotional support for Items 20a through 20c were averaged for each specialist to obtain an average score for the category '*family support*'; the importance scores of emotional support for Items 20d through 20h were averaged for each specialist to obtain an average score for the category '*collegial support*'; Items 20i through 20l were averaged to compute an average score for the importance of emotional support for the category of '*organisational support*'; and the importance scores of emotional support for Items 20m through 20u were averaged for each specialist to obtain an average score for the category '*other support*'.

A similar averaging process, as described for emotional support in the paragraph above, was then carried out for the *instrumental support* of the four main categories - Items 22a through to 22u.

This averaging process was then carried out for the *satisfaction of emotional support* - sub-items of Items 21a through to 21u and finally for the *satisfaction of instrumental support* - sub-items 23a through to 23u. These individual averages scores were then averaged across all the specialists to yield Table 4.26: Averages of Average Scores for Different Types of Support.

Table 4.26: Averages of Average Scores for Different Types of Support

	N	Minimum	Maximum	Mean	Std. Deviation
Average Importance of Emotional Support of Family	55	1.00	5.00	2.5455	.85674
Average Importance of Emotional Support of Colleagues	55	1.00	4.60	2.6218	.92028
Average Importance of Emotional Support of Organization	54	1.00	3.00	1.3009	.51022
Average Importance of Emotional Support of Others	54	1.00	2.78	1.5206	.47874
Average Satisfaction of Emotional Support of Family	50	1.00	5.00	3.7700	1.00841
Average Satisfaction of Emotional Support of Colleagues	50	1.00	5.00	3.1630	1.09097
Average Satisfaction of Emotional Support of Organization	23	1.00	5.00	2.2500	1.32930
Average Satisfaction of Emotional Support of Others	41	1.00	5.00	3.1930	1.02539
Average Importance of Instrumental Support of Family	53	1.00	5.00	2.2358	1.10623
Average Importance of Instrumental Support of Colleagues	52	1.00	4.60	2.3545	1.05941
Average Importance of Instrumental Support of Organization	49	1.00	3.25	1.2857	.53522
Average Importance of Instrumental Support of Others	50	1.00	5.00	1.5733	.67581
Average Satisfaction of Instrumental Support of Family	43	1.00	5.00	3.6085	1.01892
Average Satisfaction of Instrumental Support of Colleagues	44	1.00	5.00	3.2447	1.09503
Average Satisfaction of Instrumental Support of Organization	20	1.00	5.00	2.0250	1.27191
Average Satisfaction of Instrumental Support of Others	34	1.00	5.00	3.3574	.96952
Valid N (listwise)	12				

The first component of Hypothesis 13 is concerned with the difference in **importance** of emotional and instrumental support received from colleagues and the organisation. Table 4.26 above indicates that the mean for the ‘*average importance of emotional support of colleagues*’ was 2.62 ($SD = .92$) compared to the ‘*average importance of emotional support of the organisation*’ mean of 1.30 ($SD = .51$). Similarly, the mean for the ‘*average importance of instrumental support of colleagues*’ was higher at 2.35 ($SD = 1.06$) compared to the ‘*average importance of instrumental support of the organisation*’ mean of 1.29 ($SD = .54$).

The second component of Hypothesis 13 is concerned with the **satisfaction** of the emotional and instrumental support received from colleagues and the organisation.

Table 4.26 above indicates that the mean for the ‘average *satisfaction of emotional support of colleagues*’ was 3.16 ($SD = 1.09$) compared to the ‘average *satisfaction of emotional support of the organisation*’ mean of 2.25 ($SD = 1.33$). Similarly, the mean for the ‘average *satisfaction of instrumental support of colleagues*’ was higher at 3.24 ($SD = 1.10$) compared to the ‘average *satisfaction of instrumental support of the organisation*’ mean of 2.03 ($SD = 1.27$).

To test Hypothesis 13, pairs of values were compared within specialists using paired samples *t*-tests. Table 4.27 shows the pairs of means that were compared. Note that the means in Table 4.27 are sometimes not identical to the means in the preceding Table 4.26 because means in the Table 4.27 were only computed for specialists who had valid values for both variables being studied.

Table 4.27: Paired Sample Means for Average Importance / Satisfaction of Emotional & Instrumental Support Received from Colleagues & the Organisation

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Average Importance of Emotional Support of Colleagues	2.5963	54	.90907	.12371
	Average Importance of Emotional Support of Organization	1.3009	54	.51022	.06943
Pair 2	Average Satisfaction of Emotional Support of Colleagues	2.9894	22	1.20070	.25599
	Average Satisfaction of Emotional Support of Organization	2.1705	22	1.30335	.27788
Pair 3	Average Importance of Instrumental Support of Colleagues	2.2571	49	.99833	.14262
	Average Importance of Instrumental Support of Organization	1.2857	49	.53522	.07646
Pair 4	Average Satisfaction of Instrumental Support of Colleagues	2.9825	19	1.18865	.27269
	Average Satisfaction of Instrumental Support of Organization	2.0789	19	1.28304	.29435

In Table 4.27, the first paired sample for the average **importance of emotional support** of colleagues and the organisation had a mean of 2.60 ($SD = .91$) and 1.30 ($SD = .51$) respectively. The second paired sample for the average **satisfaction of emotional support** of colleagues and the organisation had a mean of 2.99 ($SD = 1.20$) and 2.17 ($SD = 1.30$) respectively. The third paired sample for the average **importance of instrumental support** of colleagues and the organisation had a mean of 2.26 ($SD = 1.00$) and 1.29 ($SD = .54$) respectively. The fourth paired sample for the average **satisfaction of instrumental support** of colleagues and the organisation had a mean of 2.98 ($SD = 1.19$) and 2.08 ($SD = 1.28$) respectively.

Table 4.28: Paired Samples Test for Average Importance / Satisfaction of Emotional & Instrumental Support Received From Colleagues & the Organisation

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Average Importance of Emotional Support of Colleagues - Average Importance of Emotional Support of Organisation	1.29537	.81468	.11086	1.07301	1.51774	11.684	53	.000
Pair 2	Average Satisfaction of Emotional Support of Colleagues - Average Satisfaction of Emotional Support of Organisation	.81894	.79938	.17043	.46452	1.17336	4.805	21	.000
Pair 3	Average Importance of Instrumental Support of Colleagues - Average Importance of Instrumental Support of Organisation	.97143	.80221	.11460	.74101	1.20185	8.477	48	.000
Pair 4	Average Satisfaction of Instrumental Support of Colleagues - Average Satisfaction of Instrumental Support of Organisation	.90351	.77139	.17697	.53171	1.27531	5.105	18	.000

Table 4.28 shows the paired samples test for the average importance / satisfaction of emotional and instrumental support received from colleagues and the organisation. Table 4.28 indicates that all the tests were highly significant. For pair 1, $t(53) = 11.68, p < .001$; for pair 2, $t(21) = 4.81, p < .001$; for pair 3, $t(48) = 8.48, p < .001$. Lastly, for pair 4, $t(18) = 5.11, p < .001$.

The importance of the emotional and instrumental support of colleagues is thus rated higher than the support of the organisation. Likewise, the specialists' satisfaction with the emotional and instrumental support received from colleagues is greater than that support received from the organisation. To sum up, Hypothesis 13 is supported and shows that 'esteem support' from colleagues are important to specialists going through a medico-legal process.

4.2.5 Hypothesis 14.

The fourteenth hypothesis states:

Lower levels of distress are positively related with the gap between the importance – satisfaction of emotional and instrumental support.

The literature review (Chapter Two) showed that some studies indicated that perceived social support may have a moderating effect by acting as a 'stress-buffer' to protect a person from the deleterious effects of stress. To test whether or not there was a relationship between perceived support and the levels of distress during a medico-legal process, Hypothesis 14 was formulated.

To address this hypothesis, the difference "gap" was computed between the importance and satisfaction scores for each of the sources of support represented by the sub-items in Items 20 (Importance) and 21 (Satisfaction) to yield emotional support gaps. That is, for each source of support, the satisfaction scores were subtracted from the importance scores. A similar set of gap scores were computed for the instrumental scores in Items 22 (Importance of instrumental support) and 23 (Satisfaction with instrumental support).

Spearman correlations were then computed between each of the gap scores (importance – satisfaction) and the three IES distress scores for each of the twenty-two sources of support identified on the emotional / instrumental social support matrix.

4.2.5.1 Emotional Support Gap Analysis

The table showing the computation for emotional support of the twenty-two sub-items runs over three pages, so Table 4.29 summarizes the results of this analysis showing only the variables with *p*-values less than or equal to .05.

Table 4.29 shows that the Overall IES score is correlated with the gap between importance – satisfaction for **emotional** support from the *spouse*, with a *p*-value of .008. The other sub-items that are correlated with the Overall IES score are that of ‘*Other specialist colleagues*’ with a *p*-value of .04; ‘*Colleagues with similar experience*’ with a *p*-value of .005; ‘*Other staff*’ with a *p*-value of .001 and, finally, ‘*union representative*’ with a *p*-value of .03.

Table 4.29: Results of Spearman’s rho Correlation between the Gap Analysis for Emotional Support and the Horowitz IES Scores*

Source of Support Variable	Horowitz IES Scores		
	Overall	Intrusive	Avoidance
Spouse	.38 .008	.43 .003	
Family		.44 .05	
Friends		.37 .02	
Immediate Colleagues		.32 .03	
Other Specialist Colleagues	.32 .04	.32 .03	
Colleagues. with Similar Experience	.46 .005	.50 .002	
Other Staff	-.68 .001		-.80 <.001
General Practitioners		.70 .05	
Union Representative	.76 .03	.76 .03	.90 .003

* The upper number in each cell is the Spearman correlation coefficient and the lower number is the *p*-value.

A scattergram was plotted for each of these five sub-items (in Table 4.29) that had a significant correlation with the Overall IES score. For clarity, the frequency table for each of these significant sub-items is given prior to the scattergram (Tables 4.30 through to 4.34). The value of '00' in the frequency table is where the importance of an item is **equal to** the satisfaction of that item. The positive value to the right of the '00' is where there is a gap such that the *satisfaction* is less than the *importance* placed on the sub-item by the specialist. A negative value to the left of the '00' implies that the satisfaction received was higher than the importance placed on the source of support. Figures 4.17 through 4.21 show the scatterplots for the significant cells of the Overall IES scores.

Table 4.30: Emotional Support of Spouse: Importance - Satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-2.00	1	1.8	2.1	2.1
	-1.00	9	16.1	19.1	21.3
	.00	28	50.0	59.6	80.9
	1.00	6	10.7	12.8	93.6
	2.00	1	1.8	2.1	95.7
	4.00	2	3.6	4.3	100.0
	Total	47	83.9	100.0	
Missing	System	9	16.1		
Total		56	100.0		

From Table 4.30 above, it can be seen that 28 (50%) specialists perceived that the satisfaction with emotional support received from their spouse / partner matched the importance placed on that social support sub-item. In other words, there was no gap between the importance and satisfaction of the emotional support received during the medico-legal process. These 28 specialists are represented by the circles above the 0.00 scale on the horizontal axis in Figure 4.17 (see below). Likewise, the two specialists who indicated there was a large gap between the importance they placed on spousal support and their satisfaction with the support received show moderate to severe levels (over 26) of Overall distress as measured by the IES. Figure 4.17 shows the scatterplot to correspond to the significant Spearman's correlation in Table 4.29.

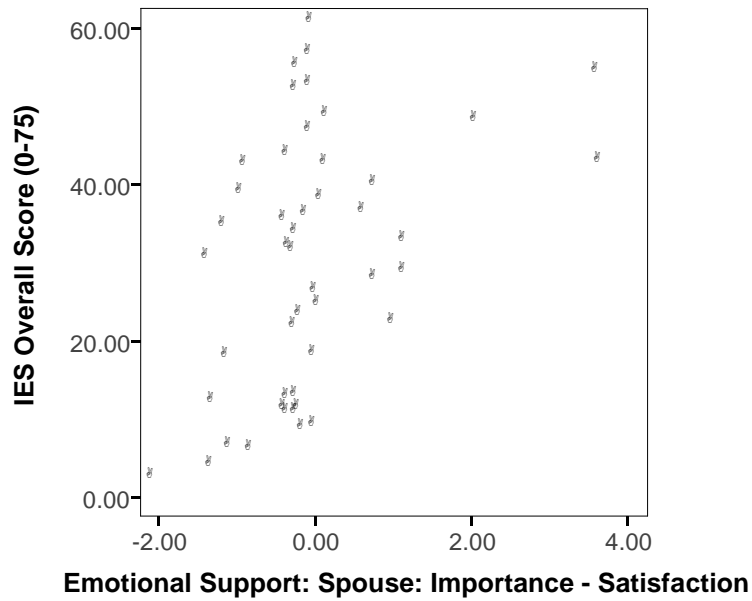


Figure 4.17: A jittered scatterplot of Overall IES scores versus the gap scores for spousal emotional support.

Positive gap scores imply that importance was scored higher than satisfaction.

Table 4.31 shows that 20 specialists perceived that the satisfaction with emotional support received from ‘other specialist colleagues’ matched the importance placed on that social support sub-item. Therefore, there was no importance-satisfaction gap.

Table 4.31: Emotional Support of Other Specialist Colleagues: Importance – Satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-3.00	2	3.6	4.9	4.9
	-1.00	9	16.1	22.0	26.8
	.00	20	35.7	48.8	75.6
	1.00	4	7.1	9.8	85.4
	2.00	5	8.9	12.2	97.6
	3.00	1	1.8	2.4	100.0
	Total		41	73.2	100.0
Missing	System	15	26.8		
Total		56	100.0		

The 20 specialists who perceived no gap between the importance-satisfaction of **emotional** support from ‘other specialist colleagues’ are represented by the circles above the 0.00 scale of the horizontal axis in Figure 4.18 (below). The Spearman’s correlation coefficient is .32 and the *p*-value is .04 with the specialists having a greater importance-satisfaction gap, showing a higher level of distress as measured by the overall IES score.

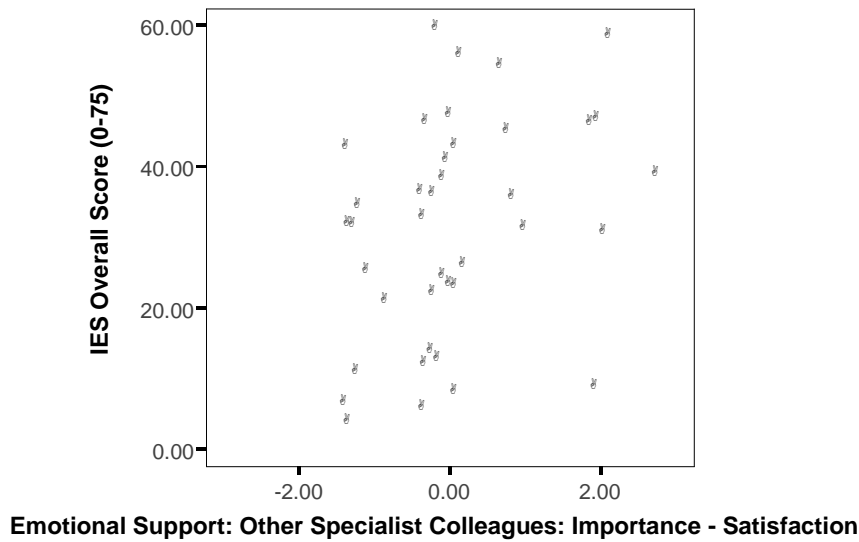


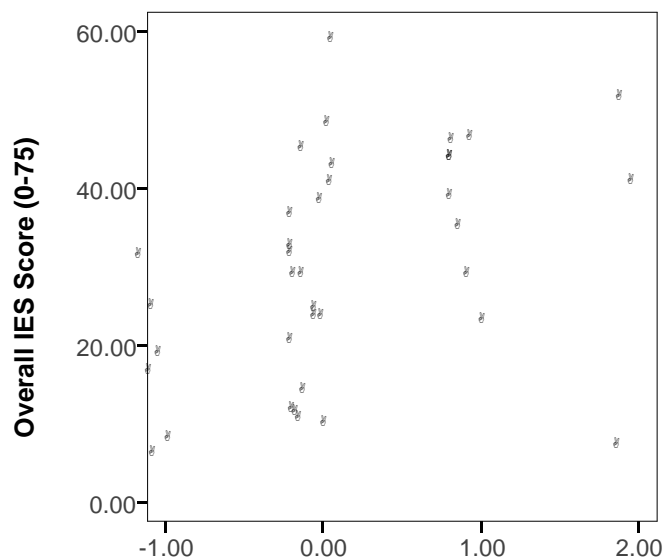
Figure 4.18: A jittered scatterplot of Overall IES scores versus the gap scores for ‘other specialist’ emotional support.
Positive gap scores imply that importance was scored higher than satisfaction.

Table 4.32 shows that, for 20 specialists, the satisfaction with emotional support from colleagues who had been through ‘similar experiences’ matched the importance they had placed on this sub-item. All but one of those 11 specialists that rated a gap between the importance and satisfaction of emotional support had an IES score above 9 (mild to moderate distress) and seven specialists scored 26 + on the overall IES, indicating ‘moderate to severe stress’.

Table 4.32: Emotional Support of Colleagues with Similar Experience: Importance - Satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-1.00	6	10.7	16.2	16.2
	.00	20	35.7	54.1	70.3
	1.00	8	14.3	21.6	91.9
	2.00	3	5.4	8.1	100.0
	Total	37	66.1	100.0	
Missing	System	19	33.9		
Total		56	100.0		

Figure 4.19 shows the scatterplot of the Overall IES scores versus the gap scores for the emotional support of colleagues who had had similar medico-legal experiences.



Emotional Support: Colleagues with Similar Experience: Importance - Satisfaction

Figure 4.19: A jittered scatterplot of Overall IES scores versus the gap scores for the emotional support of ‘colleagues with similar experience’.

Positive gap scores imply that importance was scored higher than satisfaction.

Table 4.33 shows that, for 10 specialists, there was no gap between the importance of, and satisfaction with the emotional support received from ‘other staff’ – eg nurses. Interestingly, the highest scores on the overall IES score for this sub-item correlates with the situation where the satisfaction with emotional support is higher than the importance placed on it. Of the three specialists who were dissatisfied with the emotional support they had received from other staff, two had Overall IES scores above 30.

Table 4.33: Emotional Support of Other Staff: Importance - Satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-1.00	8	14.3	38.1	38.1
	.00	10	17.9	47.6	85.7
	1.00	3	5.4	14.3	100.0
	Total	21	37.5	100.0	
Missing	System	35	62.5		
Total		56	100.0		

Figure 4.20 shows the scatterplot to correspond to the significant Spearman's correlation in Table 4.33 of -0.68 and a p -value of $.001$.

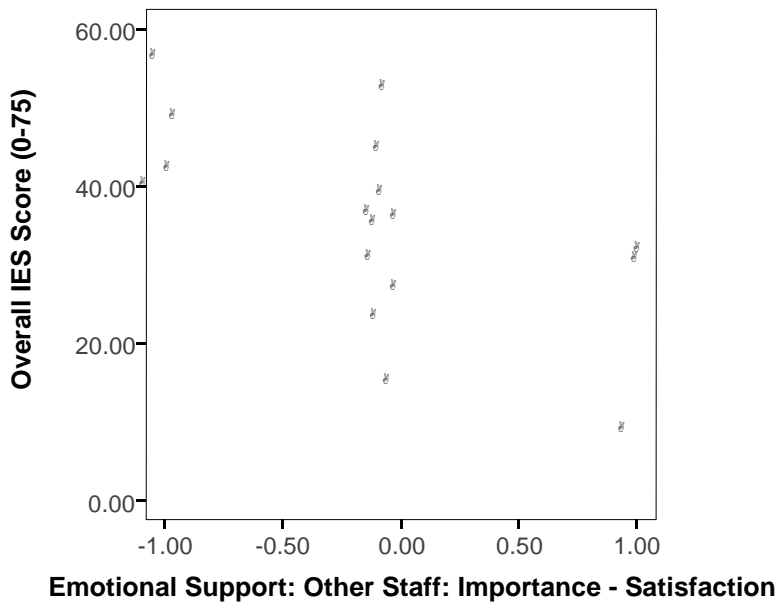


Figure 4.20: A jittered scatterplot of Overall IES scores versus the gap scores for the ‘emotional support of other staff’.

Positive gap scores imply that importance was scored higher than satisfaction.

Table 4.34 indicates that only eight specialists completed both the satisfaction and importance emotional support matrix for the sub-item of union representative, and four specialists indicated that there was no gap between the importance and satisfaction with the emotional support from union representatives. For this sub-item, the gaps were such that satisfaction exceeded the importance placed on the support.

Table 4.34: Emotional Support of Union Rep: Importance - Satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-2.00	1	1.8	12.5	12.5
	-1.00	3	5.4	37.5	50.0
	.00	4	7.1	50.0	100.0
	Total	8	14.3	100.0	
Missing	System	48	85.7		
Total		56	100.0		

Figure 4.21 (below) shows the scatterplot to correspond to the significant Spearman’s correlation in Table 4.34 of .79 and a p -value of .03.

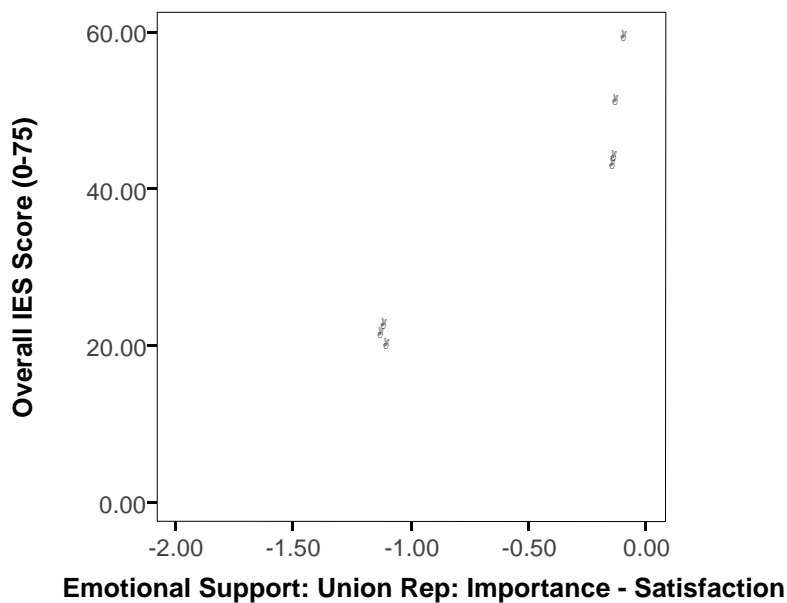


Figure 4.21: A jittered scatterplot of Overall IES scores versus the gap scores for the ‘emotional support of union representatives’.

Positive gap scores imply that importance was scored higher than satisfaction.

4.2.5.2 Instrumental Support Gap Analysis

As described above for emotional support, a similar analysis was repeated for **instrumental** support. Spearman correlations were computed between each of the gap scores (importance – satisfaction) of instrumental support and the three IES distress scores for each of the twenty-two sources from the social support matrix. The table showing this computation for instrumental support of the twenty-two sub-items runs over three pages, so Table 4.35 summarizes the results of this analysis showing only the variables with p -values less than or equal to .05.

Table 4.35: Results of Spearman’s rho Correlation between the Gap Analysis for Instrumental Support and the IES Scores*

Variable	Horowitz IES Scores		
	Overall	Intrusive	Avoidance
Other Specialist Colleagues	.42 .03	.42 .03	.40 .04
Specialist Association	.80 .02		

*The upper number in each cell is the Spearman correlation coefficient and the lower number is the *p*-value.

Table 4.35 above shows that the Overall IES score is correlated with the gap between importance – satisfaction for **instrumental support** from ‘*other specialist colleagues*’ with a *p*-value of .03. The other sub-item that is correlated with the Overall IES score is that of ‘*specialist association*’ with a *p*-value of .02.

As was done with the previous analysis for emotional support, a scattergram was plotted for each of the two sub-items in Table 4.35 that had a significant correlation with the Overall IES score. For clarity, the frequency table for each of these significant sub-items is given prior to the scattergram (Tables 4.36 and 4.37). Figures 4.22 and 4.23 show corresponding scatterplots for the significant cells of the Overall IES scores.

From Table 4.36 it can be seen that 15 (26.8%) specialists perceived that the satisfaction with instrumental support received from other specialist colleagues matched the importance placed on that social support source. In other words, there was no gap between the importance and satisfaction of the instrumental support received during the medico-legal process.

Table 4.36: Instrumental Support of Other Specialist Colleagues: Importance – Satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-2.00	1	1.8	3.6	3.6
	-1.00	8	14.3	28.6	32.1
	.00	15	26.8	53.6	85.7
	1.00	4	7.1	14.3	100.0
	Total	28	50.0	100.0	
Missing	System	28	50.0		
Total		56	100.0		

These 15 specialists are represented by the circles above the 0.00 scale on the horizontal axis in Figure 4.22 below. Likewise, the four specialists who indicated there was a gap between the importance they placed on other specialist support and their satisfaction with the support received show ‘moderate to severe’ levels (26+) of Overall distress as measured by the IES. Figure 4.22 below shows the scatterplot to correspond to the significant Spearman’s correlation in Table 4.35.

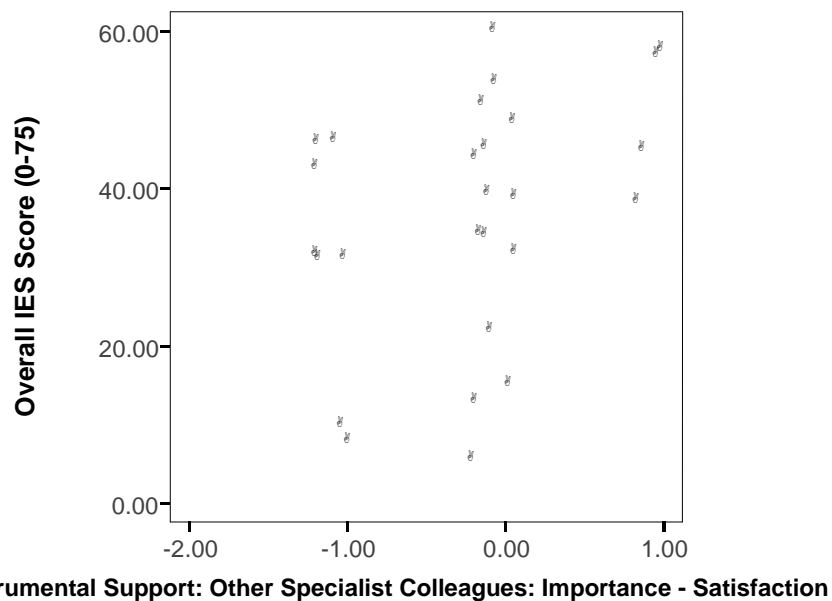


Figure 4.22: A jittered scatterplot of Overall IES scores versus the gap scores for the instrumental support of ‘other specialist colleagues’.

Positive gap scores imply that importance was scored higher than satisfaction.

Table 4.37 shows that five specialists placed a higher importance on their specialist association’s instrumental support but that this was not matched by their satisfaction of the instrumental support received. These specialists had an Overall IES score of 26+ placing them in the ‘moderate to severe’ category of symptoms of distress.

Table 4.37: Instrumental Support: Specialist Association: Importance - Satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-1.00	1	1.8	12.5	12.5
	.00	2	3.6	25.0	37.5
	1.00	3	5.4	37.5	75.0
	2.00	2	3.6	25.0	100.0
	Total	8	14.3	100.0	
Missing	System	48	85.7		
Total		56	100.0		

Figure 4.23 below is a scatterplot of the sub-item in Table 4.37.

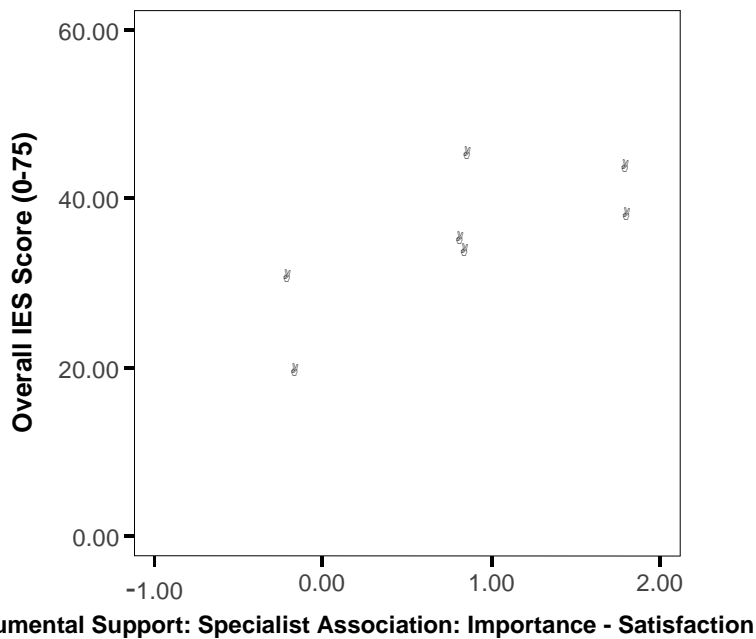


Figure 4.23: A jittered scatterplot of Overall IES scores versus the gap scores for the instrumental support of the specialist’s association.

Positive gap scores imply that importance was scored higher than satisfaction.

To sum up, from the above analysis, Hypothesis 14 can be shown to be partially supported – that is, for five sub-items for emotional support and two sub-items for instrumental support.

4.2.6 Analysis of Importance / Satisfaction of Social Support by Gender.

To test for gender differences in the importance or satisfaction of social support for specialists undergoing a medico-legal process, independent sample *t*-tests were performed for each of the sources (a) to (v) of Item 20- Importance of Emotional Support, Item 21 – Satisfaction with Emotional Support, Item 22 – Importance of Instrumental Support and Item 23 – Satisfaction with Instrumental support. All tests were 2-tailed.

From the *t*-test for equality of means for questionnaire Items 20-23, only four sub-items had a *p*-value of .05 or less. These were: 20d - Importance of immediate colleagues’ emotional support; 20e - Importance of other specialist colleagues’ emotional support; 20m – Importance of other staff (eg nurses)’ emotional support; and 21m – Satisfaction of emotional support of other staff. Where the Levene’s test for

equality of variances between the gender means was significant (probability of 0.05 or less), then the variances were unequal and the *t* value for unequal variances was used. As the table for the independent sample tests for the 88 sub-items described above runs into many pages, a summary (Table 4.38) has been developed to show only statistically significant tests.

Table 4.38: Statistically Significant Relationships between Support Items And Gender

Item	Male Score	Female Score	<i>p</i> -value
20d Importance of Immediate Colleagues Emotional Support	3.15	4.05	.007
20e Importance of other specialist colleagues emotional support	2.41	3.19	.03
20m Importance of other staff emotional support	1.47	2.15	.05
21m Satisfaction of emotional support of other staff	2.58	3.44	.04

Table 4.38 indicates a significant difference in the social support and gender for four sub-items / sources of support. For 20d - Importance of Immediate Colleagues' Emotional Support, the average mean male score is 3.15 compared to the average mean female score of 4.05, with a *p*-value of .007. For 20e - Importance of other specialist colleagues' emotional support, the average mean male score is 2.41 compared to the average mean female score of 3.19, with a *p*-value of .03. Likewise, for 20m - Importance of other staff emotional support, the average mean male score is 1.47 compared to the average mean female score of 2.15, with a *p*-value of .05.

There was only one sub-item that was significantly different regarding the **satisfaction** of social support and that was for 21m - Satisfaction of emotional support of other staff, where the average mean male score is 2.58 compared to the average mean female score of 3.44, with a *p*-value of .04.

It is important to note that 88 statistical tests were performed in generating Table 4.38, so approximately four or five could be expected to be statistically significant at the .05 level due to chance. Figures 4.24 through to 4.27 show bar graphs for the significant results of Table 4.38.

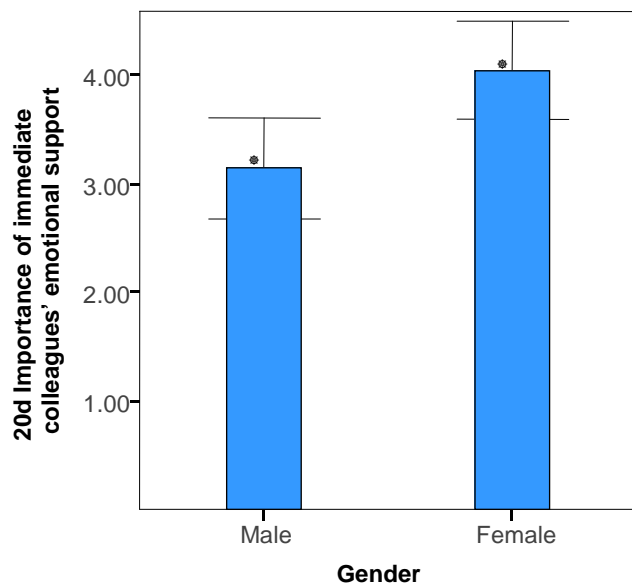


Figure 4.24: A bar chart showing the Importance of ‘Immediate colleagues’ emotional support by gender.
The error bars show two standard errors of the mean.

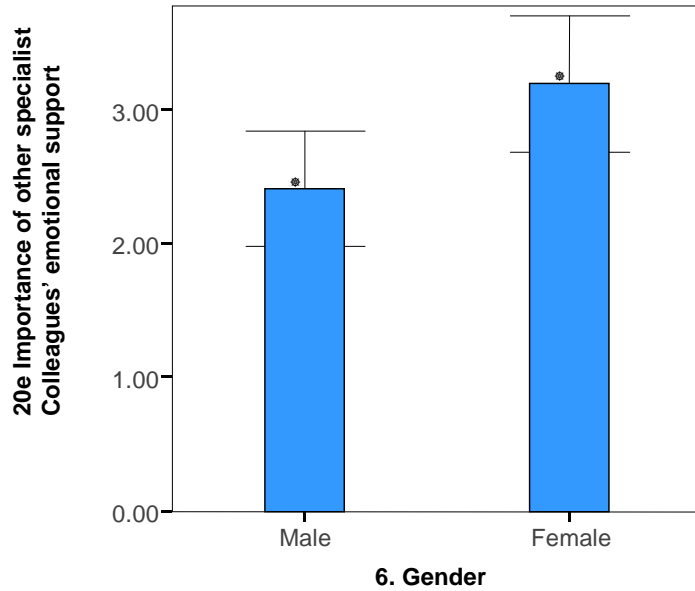


Figure 4.25: A bar chart showing the Importance of ‘Other specialist colleagues’ emotional support by gender.
The error bars show two standard errors of the mean.

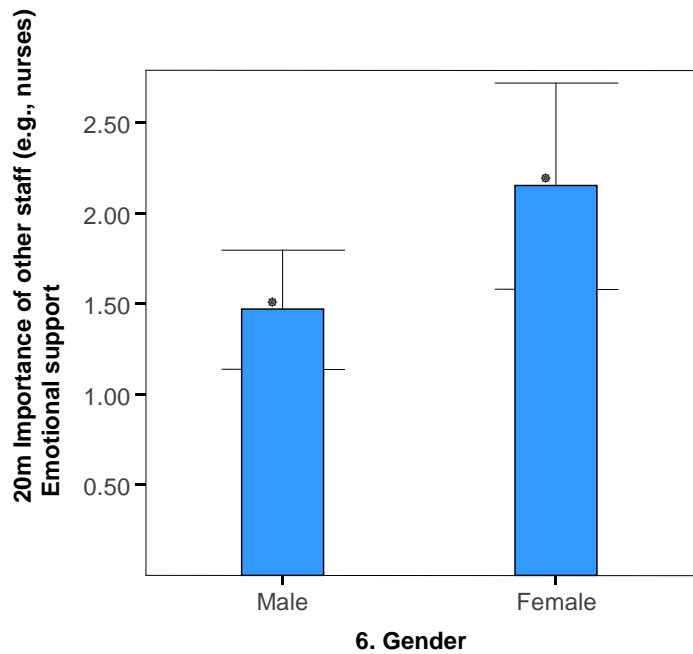


Figure 4.26: A bar chart showing the Importance of ‘Other staff’ emotional support by gender.

The error bars show two standard errors of the mean.

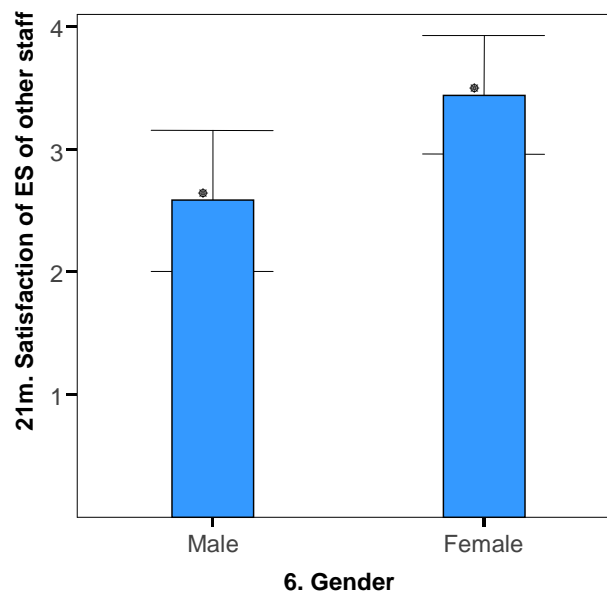


Figure 4.27: A bar chart showing the Satisfaction of ‘Other staff’ emotional support by gender.

The error bars show two standard errors of the mean.

From the above, it would appear that there is a gender difference regarding the importance of ‘immediate’ and ‘other specialist’ collegial emotional support between male and female specialists during a medico-legal process. In addition, female specialists place more importance on, and are more satisfied with, the emotional support of ‘other staff’ (eg nurses). The latter is probably not surprising as the majority of nurses are female.

4.2.7 Importance-Performance Analysis (IPA) of Emotional and Instrumental Support

To explore what **sources** of emotional and instrumental support were important for specialists going through a medico-legal process, the participants were asked to rate the relative value of each source of social support and their satisfaction with the support received. An IPA was carried out separately, for both emotional and instrumental support, in sections 4.2.7.1 and 4.2.7.2 respectively.

4.2.7.1 Importance Performance Analysis of Emotional Support

Table 4.39 summarizes the average responses of the specialists' perceptions regarding the importance / satisfaction of emotional support for the 22 sources.

Table 4.39: Specialists' Perceptions of the Importance and Satisfaction of the Sources of Emotional Support & the Discrepancy Gaps (I-S)

Letter	Support Source	Importance of Emotional Support	Satisfaction with Emotional Support	Discrepancy I-S
a	Spouse	3.78	4.11	-.33
b	Extended Family	1.63	3.43	-1.80
c	Close Friends	2.15	3.25	-1.10
d	Immediate Colleagues	3.48	3.33	.15
e	Other Specialist Colleagues	2.71	3.00	-.29
f	Colleagues with Similar Experience	2.94	3.43	-.49
g	Colleagues in Private Practice	1.91	2.85	-.94
h	Immediate Hospital Management	1.96	2.50	-.54
i	Hospital Senior Management	1.61	2.00	-.39
j	Hospital HR Managers.	1.26	1.46	-.20
k	Hospital Counselling Service	1.22	3.14	-1.92
l	Private Hospital Management.	1.11	3.00	-1.89
m	Other Staff	1.72	2.95	-1.23
n	Specialist Association	1.43	2.63	-1.20
o	Doctors' Health Advisory Service	1.09	3.00	-1.91
p	General Practitioners	1.26	3.11	-1.85
q	Private Counselor	1.37	3.71	-2.34
r	Legal Counsel	2.50	3.61	-1.11
s	Religious Leader	1.26	3.14	-1.88
t	Union Representative	1.19	2.75	-1.56
u	Insurer	1.87	3.38	-1.51
v	Other	1.15	5.00	-3.85

For all but one of the sources of emotional support presented in Table 4.39 above, the differential between importance and satisfaction was negative in that perceived satisfaction was higher than the perceived importance of the source of support. The *satisfaction* with emotional support from ‘immediate colleagues’ was perceived to be deficient in relation to the perceived *importance* of their support.

From Table 4.39, the sources of **emotional** support rated the most *important* by the specialists are:

a - Spouse,	3.78
d - Immediate Colleagues	3.48
f - Colleagues with similar experience	2.94
e - Other specialist colleagues	2.71
r - Legal Counsel	2.50

This clearly shows the importance of emotional support from colleagues for specialists going through a medico-legal process. Interestingly, Legal Counsel is ranked fifth as a source of emotional support.

Looking at the column for **Satisfaction with Emotional Support**, the specialists were **least** satisfied with the emotional support from:

j - Hospital HR Managers	1.46
i - Hospital Senior Management	2.00
h - Immediate Hospital Management	2.50
n - Specialist Associations	2.63
t - Union Representative	2.75

From this it would appear that hospital management is not perceived to be a very satisfactory source of emotional support for specialists undergoing a medico-legal process.

Where resources should be focused to improve emotional support to specialists would differ depending on whether one was looking at importance or satisfaction. A source of emotional support may be important, however satisfaction with the existing level of support may be rated as high, so resources expended would be of little value.

The Discrepancy column in Table 4.39 (above) shows the gap between the importance and satisfaction of perceived emotional support. The least gaps or discrepancies between that of perceived importance and satisfaction are:

d - Immediate Colleagues	.15
j - Hospital HR Managers	-.20

e - Other Specialist Colleague	-0.29
a - Spouse	-0.39
i - Hospital Senior Management	-0.39

It should be noted that in terms of performance gaps, the only one out of the 22 sub-items that has a positive sign is that of ‘Immediate colleagues’ in that the perceived satisfaction was less than the importance placed on this category as a source of emotional support. The other four sources of support have negative signs, indicating that the perceived satisfaction was higher than the perceived level of emotional support importance. Thus, ‘Immediate Colleagues’ are ranked as being the second most important source of emotional support, but is third from the bottom in terms of satisfaction of emotional support and has the smallest discrepancy. An Importance – Performance (IP) map is a way of displaying the above inconsistencies (see Figure 4.28 below).

High Importance	Quadrant I Concentrate Here	Quadrant II Keep up the good work
	Quadrant III Low priority	Quadrant IV Possible overkill
Low	Low	High
	Satisfaction	

Figure 4.28: I-P Map (Martilla & James, 1997)

On a previous page, Table 4.39 shows the average importance of, and satisfaction with, emotional support for the 22 sources of support. To investigate the relationship between importance and satisfaction of these sources of emotional support, they have been plotted on an IP graph shown in Figure 4.29. The dimensions of the sources of emotional support were plotted graphically on a two-dimensional grid matrix. The importance values are on the vertical axis and the satisfaction values are on the horizontal axis.

Table 4.40 gives the overall importance mean of emotional support as 1.85 (*SD* = .78) and the satisfaction **mean** as 3.13 (*SD* = .70).

Table 4.40: The Mean of the Importance & Satisfaction of the 22 Sources of Emotional Support for Specialists

	N	Minimum	Maximum	Mean	Std. Deviation
Importance of Emotional Support	22	1.09	3.78	1.8456	.78307
Satisfaction With Emotional Support	22	1.46	5.00	3.1264	.70170
Discrepancy	22	-3.85	.15	-1.2807	.90614
Valid N (listwise)	22				

These means (Table 4.40) are represented by the intersecting grid lines in Figure 4.29.

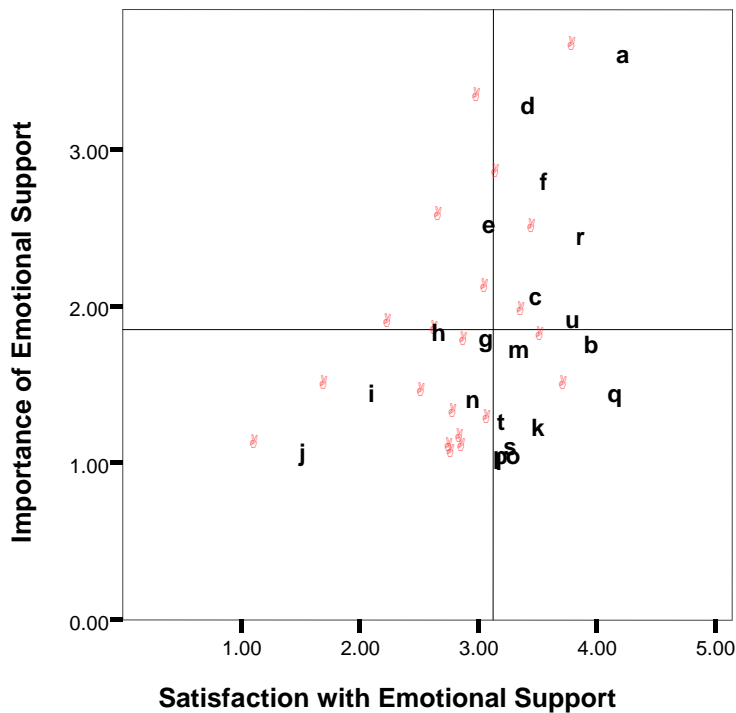


Figure 4.29: Importance - Performance Graph for Emotional Support. Increasing values on the axes indicate increasing importance and increasing satisfaction. The letter of the alphabet represents the support source as listed in Table 4.40.

For emotional support, the following sub-items fall into **quadrant I** –

Concentrate here:

- d** - Immediate Colleagues
- e** - Other Specialist Colleagues
- h** - Immediate hospital management (HOD). This is borderline.
- c** - Close friends

For emotional support, the following sub-items fall into **quadrant II – Keep up the good work:**

- a** - Spouse
- f** - Colleagues with similar experiences
- r** - Legal Counsel
- u** - Insurer

For emotional support, the following sub-items fall into **quadrant III – Low Priority:**

- g** - Colleagues in Private Practice
- i** - Hospital Senior Management
- j** - Hospital HR Managers
- l** - Private Hospital Management
- m** - Other Staff (eg Nurses)
- n** - Specialist Associations
- o** - Drs' Health Advisory Service
- p** - General Practitioner
- s** - Religious Leader
- t** - Union Rep

For emotional support, the following sub-items fall into **quadrant IV – Possible overkill:**

- b** - Extended Family
- k** - Hospital Counselling Service
- q** - Private Counselling
- v** - Other support

The IP graph (Figure 4.39) indicates that improving collegial support for a specialist going through a medico-legal process should be a focus for further HR interventions. Interestingly, hospital HR managers were rated the **lowest** by the specialists out of the 22 sources for satisfaction of emotional support received.

As was mentioned in the chapters on literature review and questionnaire design, the 22 sub-items of sources of social support were collapsed into four main categories as follows:

- **Family** – spouse / partner, family, friends (a, b, c)
- **Colleagues** – including immediate colleagues, other specialist colleagues, Head of Department (d, e, f, g, & h)

- **Organisation** – hospital management, human resource managers, counselling services, private hospital management, other staff (i, j, k, & l)
- **Other agencies** – for example, specialist Colleges, legal counsel, specialist, union, religious leader, insurance provider etc (n to v)

The means and discrepancy between the importance and satisfaction for the four source categories of emotional support are shown in Table 4.41 and have been plotted on an I-P graph in Figure 4.30.

Table 4.41: Specialists’ Perceptions of the Importance and Satisfaction of the Sources of Emotional Support by Category

Support Category	Importance of Emotional Support	Satisfaction with Emotional Support	Discrepancy I-S
Family	2.55	3.77	-1.22
Colleagues	2.62	3.16	-.54
Organisation	1.30	2.25	-.95
Other Agencies	1.52	3.19	-1.67

As a category group, ‘Colleagues’ are rated as being the most important source of emotional support, with a mean of 2.62. This was followed in importance by ‘Family’, with a mean of 2.55; then ‘Other Agencies’, with a mean of 1.52 and, lastly, by ‘Organisation’, with a mean of 1.30.

When ranked in order of satisfaction with the source of emotional support, the ‘Family’ category was ranked the highest, with a mean of 3.77; ‘Other Agencies’ were ranked second, with 3.19; next were ‘Colleagues’, with a mean of 3.16; and ‘Organisation’ was ranked last as a source of emotional support, with a mean of 2.25.

In all of the above categories, the satisfaction mean of emotional support received was rated as being higher than the importance mean of the source of emotional support. Thus, the discrepancy I-S has a negative sign.

Table 4.42: Importance & Satisfaction means for the Sources of Emotional Support By Category for Specialists

	N	Minimum	Maximum	Mean	Std. Deviation
Importance of Emotional Support	4	1.30	2.62	1.9972	.68380
Satisfaction With Emotional Support	4	2.25	3.77	3.0940	.62819
Discrepancy	4	-1.67	-.54	-1.0968	.47544
Valid N (listwise)	4				

Table 4.42 gives the overall category importance **mean** of emotional support as 2.00 ($SD = .68$) and the satisfaction **mean** as 3.09 ($SD = .63$). These means are represented by the intersecting grid lines in Figure 4.30 below.

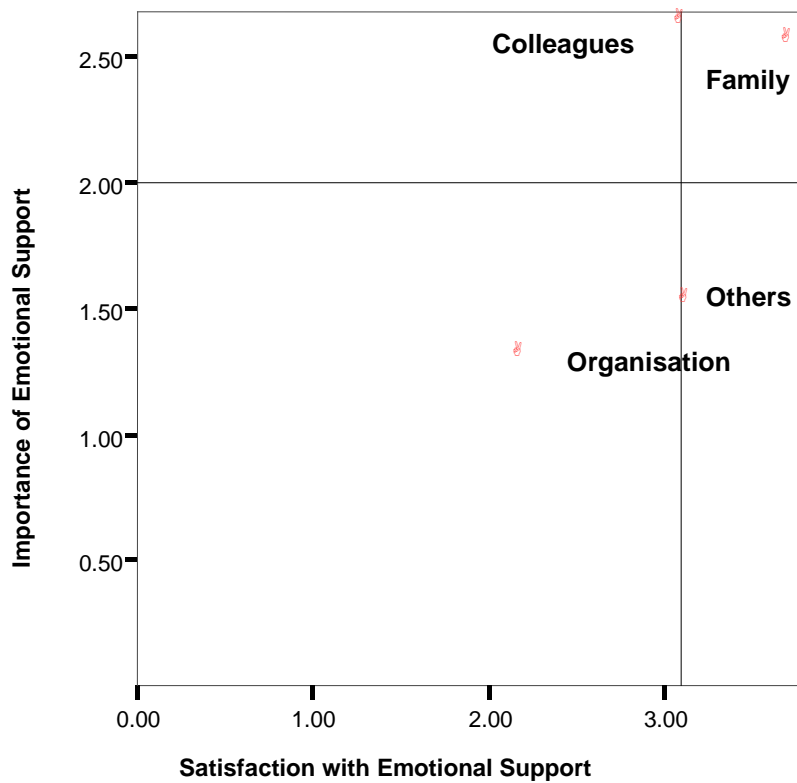


Figure 4.30: Importance-performance graph for emotional support With the 22 categories collapsed into four groups.

Increasing values on the axes indicate increasing importance and increasing satisfaction.

Figure 4.30 shows that the emotional support category of ‘Family’ clearly falls in quadrant I - ‘keep up the good work’, while the category of ‘Colleagues’ is borderline between quadrant I - ‘concentrate here’ and quadrant II – keep up the good work’. This is a similar result to the situation where the 22 sources of support are plotted individually. The category ‘Organisation’ is located in quadrant III – ‘low priority’. The category of ‘Others’ is borderline with quadrant III – Low priority’ and quadrant IV - ‘possible overkill’.

4.3.7.2 Importance Performance Analysis of Instrumental Support

The Importance Performance analysis of emotional support was similarly carried out with the data for instrumental support. The results for the mean of the importance of

and satisfaction with **instrumental** support from each of the 22 sources of social support are shown in Table 4.43.

Table 4.43: Specialists’ Perceptions of the Importance and Satisfaction of the Sources of Instrumental Support & the Discrepancy Gap (I-S)

Letter	Support Source	Importance of Instrumental Support	Satisfaction with Instrumental Support	Discrepancy
a	Spouse	3.06	4.03	-.97
b	Extended Family	1.71	3.24	-1.53
c	Close Friends	1.84	3.19	-1.35
d	Immediate Colleagues	3.12	3.54	-.42
e	Other Specialist Colleagues	2.13	3.10	-.97
f	Colleagues with Similar Experience	2.77	3.45	-.68
g	Colleagues in Private Practice	1.65	3.00	-1.35
h	Immediate Hospital Management	1.94	2.57	-.63
i	Hospital Senior Management	1.65	1.84	-.19
j	Hospital HR Managers.	1.27	1.70	-.43
k	Hospital Counselling Service	1.16	2.67	-1.51
l	Private Hospital Management.	1.06	2.00	-.94
m	Other Staff	1.47	2.93	-1.46
n	Specialist Association	1.43	2.25	-.82
o	Doctors’ Health Advisory Service	1.02	1.00	.02
p	General Practitioners	1.22	2.33	-1.11
q	Private Counselor	1.35	4.00	-2.65
r	Legal Counsel	2.82	3.88	-1.06
s	Religious Leader	1.06	4.00	-2.94
t	Union Representative	1.16	2.50	-1.34
u	Insurer	2.06	3.59	-1.53
v	Other	1.08	5.00	-3.92

From Table 4.43, the sources of instrumental support rated the most important by the specialists are:

- d** - Immediate Colleagues 3.12
- a** - Spouse 3.06
- r** - Legal Counsel 2.82
- f** - Colleagues with Similar Experience 2.77
- e** - Other Specialist colleagues 2.13

Instrumental support involves giving information and advice as well as making things easier for the specialist who is going through a medico-legal process, so it is not

surprising that legal counsel and collegial support are ranked highly. Once again, the spouse ranks high in importance as a source of support.

Looking at the column for **Satisfaction with Instrumental Support**, the specialists were **least** satisfied with the instrumental support from:

o - Drs' Health Advisory Service	1.00
j - Hospital HR Managers	1.70
i - Hospital Senior Management	1.84
h - Private Hospital Management	2.00
n - Specialist Associations	2.25

As with emotional support, satisfaction with hospital management instrumental support did not rank highly, nor did the Specialist Associations (who are meant to represent the interests of each specialist profession).

The Discrepancy column in Table 4.43 shows the gap between the importance and satisfaction of perceived instrumental support. The least discrepancies between that of perceived importance and satisfaction are:

o - Drs' Health Advisory Service	.02
i - Hospital Senior Management	-.19
d - Immediate Colleagues	-.15
j - Hospital HR Managers	-.43
h - Immediate Hospital Management	-.63

In Table 4.43, the only source of instrumental sought where there was a positive discrepancy between the importance of, and satisfaction with, instrumental support was that of **o** – the Drs’ Advisory Service. However, this service did rate right at the bottom of the 22 sub-items for the importance of instrumental support, with 1.02. The fact that the Drs’ Health Advisory Service ranked so low may be because not many respondents had heard of the agency.

The mean of the 22 sub-items of the importance of, and satisfaction with, instrumental support was calculated and is shown in Table 4.44.

Table 4.44: Importance & Satisfaction means for the Sources of Instrumental Support by Category for Specialists

	N	Minimum	Maximum	Mean	Std. Deviation
Importance of Instrumental Support	22	1.02	3.12	1.7284	.67363
Satisfaction With Instrumental Support	22	1.00	5.00	2.9914	.93542
Discrepancy	22	-3.92	.02	-1.2630	.91400
Valid N (listwise)	22				

Table 4.44 above gives the overall importance **mean** of instrumental support as 1.73 ($SD = .67$) and the satisfaction **mean** as 3.00 ($SD = .94$). These means are represented by the intersecting grid lines in Figure 4.31 (below). This figure also shows the instrumental support data of the 22 sources in Table 4.43 as an Importance-Performance graph.

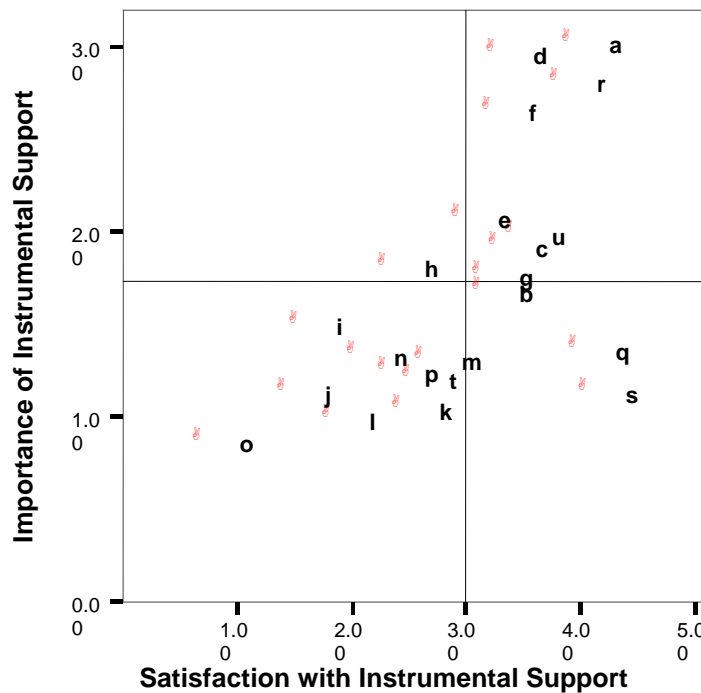


Figure 4.31: Importance-Performance graph for Instrumental Support.

Increasing values on the axes indicate increasing importance and increasing satisfaction. The letter of the alphabet represents the support source as listed in Table 4.40.

For instrumental support, the following sub-items fall into **quadrant I – Concentrate here**:

- h** - Immediate Hospital Management (HOD)
- e** - Other Specialist Colleagues. This is borderline.

For instrumental support, the following sub-items fall into **quadrant II – Keep up the good work**:

- a** - Spouse
- d** - Immediate Colleagues
- c** - Close friends
- f** - Colleagues with Similar experiences
- g** - Colleagues from Private Practice
- r** - Legal Counsel
- u** - Insurer

For instrumental support, the following sub-items fall into **quadrant III – Low**

Priority:

- i** - Hospital Senior Management
- j** - Hospital HR Managers
- k** - Hospital Counselling Service
- l** - Private Hospital Management
- m** - Other Hospital staff (eg nurses)
- n** - Specialist Association
- o** - Drs' Advisory Service
- p** - General Practitioners
- t** - Union Rep

For instrumental support, the following sub-items fall into **quadrant IV – Possible overkill**:

- b** - Extended family
- q** - Private Counselor
- s** - Religious leader

The IP graph (Figure 4.31) indicates that improving the instrumental support of ‘Immediate Hospital Management’ (HOD) and that of ‘Other Specialist Colleagues’ should be a focus for further HR interventions. It is interesting that the specialists were least satisfied with the *instrumental* support from those sources that are the major

stakeholders in the well-being of medical specialists, namely Hospital HR Managers, Senior Hospital Management and the Specialist Associations.

As for emotional support, the 22 sources of *instrumental* support were collapsed into four main categories. The means for the four source categories of instrumental support are shown in Table 4.45 and have been plotted on an I-P graph in Figure 4.32.

Table 4.45: Specialists’ Perceptions of the Importance and Satisfaction of the Sources of Instrumental Support by Category

Support Category	Importance of Instrumental Support	Satisfaction with Instrumental Support	Discrepancy I-S
Family	2.24	3.61	-1.37
Colleagues	2.35	3.24	-.89
Organisation	1.29	2.03	-.74
Other Agencies	1.57	3.36	-1.78

Specialists ranked the category groups for instrumental support in the same order of importance as that for emotional support. The category ‘Colleagues’ is rated as being the most important source of instrumental support, with a mean of 2.35. This was followed in importance by: the ‘Family’, with a mean of 2.24; then ‘Other Agencies’, with a mean of 1.29 and, lastly, by the ‘Organisation’, with a mean of 1.57.

When ranked in order of satisfaction with the source of instrumental support, the ‘Family’ category was ranked the highest, with a mean of 3.61; ‘Other Agencies’ were ranked second, with 3.36; next were ‘Colleagues’, with a mean of 3.24; and ‘Organisation’ was ranked last, with a mean of 2.03.

In all of the above categories, the satisfaction mean of instrumental support received was rated as being higher than the importance mean of the source of instrumental support. Thus, the discrepancy I-S has a negative sign.

As with the categories of emotional support, the mean for the importance of, and satisfaction with, instrumental support was calculated for the four category groups as shown in Table 4.46.

Table 4.46: Importance & Satisfaction means for the Sources of Instrumental Support By Category for Specialists

	N	Minimum	Maximum	Mean	Std. Deviation
Importance of Instrumental Support	4	1.29	2.35	1.8623	.51567
Satisfaction With Instrumental Support	4	2.03	3.61	3.0589	.70584
Discrepancy	4	-1.78	-.74	-1.1966	.47581
Valid N (listwise)	4				

Table 4.46 above gives the overall category importance mean of instrumental support as 1.86 ($SD = .52$) and the satisfaction mean as 3.61 ($SD = .71$). These means are represented by the intersecting grid lines in the IP graph below (Figure 4.32).

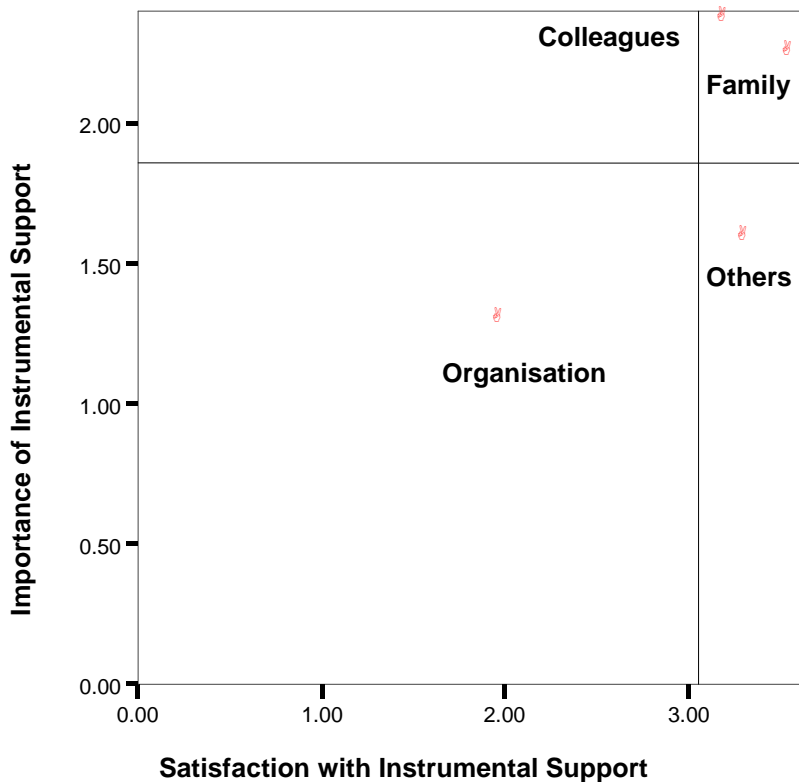


Figure 4.32: An importance-performance graph for instrumental support with the 22 categories collapsed into the four groups.

Increasing values on the axes indicate increasing importance and increasing satisfaction.

Figure 4.32 shows for emotional support, categories ‘Family’ and ‘Colleagues’ fall in quadrant I - ‘keep up the good work’. However, the ‘Colleague’ category is close to the mean gridline for satisfaction. The category of ‘Organisation’ is located in

quadrant III – ‘low priority’. The category of ‘Others’ is in quadrant IV - ‘possible overkill’ regarding instrumental support for specialists

The implications of the above results regarding social support in terms of resourcing and the development of human resource management strategies will be discussed in Chapter 5.

The next section, Section 3, provides the descriptive statistics for sub-problem three – HRM strategies needed to support medical specialist going through a medico-legal process.

4.3 Section Three: Human Resource Strategies Needed to Support Specialists going through a Medico-legal Process (Sub-problem Three)

The literature review revealed that there has been no research on the HR strategies needed to support NZ medical specialists during a medico-legal process, so no hypothesis was formulated. Instead, preventative strategies from the occupational stress literature were adapted for this study and listed as possible interventions.

In the questionnaire, Section 6 - Item 32 asked the following exploratory question of the respondents: *'In your opinion, to what extent would the following support be useful to specialists undergoing a medico-legal process?'* Twenty interventions - (a) to (t) - were listed and the specialist was asked to rate each on a scale from 'Extremely useful' to 'Not at all useful'. To obtain additional ideas for support interventions, the specialists were then given the opportunity to respond to the open-ended question: *'What other support do you think would be useful?'*

Occupational stress interventions are usually classified into three categories: primary intervention, secondary intervention and tertiary intervention. Each of these intervention categories comprises organisational strategies and individual strategies (Dollard, 2001: 30). This approach will be used to classify the suggestions for support and stress interventions for this study, with the addition of a 'national strategies' category.

4.3.1 Descriptive Statistics for Support Strategies

The frequencies of responses for each support intervention - (a) to (t) - are listed in Table 4.47 which has the same format as that of the questionnaire completed by the specialists. The response frequency is expressed as a percentage for each response scale.

Table 4.47: Summary of Response Frequencies to Suggestions of Support for Specialists going through a Medico-legal Process

Support Suggestions	Extremely useful	Very Useful	Useful	Slightly useful	Not at all useful	Missing
a. Access to hospital counselling service (n = 56)	8.9%	10.7%	32.1%	19.6%	28.6%	0%
b. Access to an independent psychologist (n = 56)	30.4%	21.4%	19.6%	8.9%	19.6%	0%
c. Support of a nominated hospital peer / mentor (n = 55)	12.5%	32.1%	30.4%	10.7%	12.5%	1.8%
d. Access to Doctors Health Advisory Service (DHAS) (n=55)	7.1%	21.4%	26.8%	14.3%	28.6%	1.8%
e. Support networks arranged by specialist College / Association (n = 55)	16.1%	21.4%	41.1%	10.7%	8.9%	1.8%
f. Information on emotional reactions to litigation (eg video, manual) (n = 55)	12.5%	16.1%	30.4%	19.6%	19.6%	1.8%
g. Information on how to support colleagues (n = 55)	21.4%	37.5%	30.4%	3.6%	5.4%	1.8%
h. Stress risk assessment & management programme (n=54)	8.9%	32.1%	21.4%	14.3%	19.6%	3.6%
i. Coaching on coping / resiliency skills (n = 55)	7.1%	28.6%	30.4%	14.3%	17.9%	1.8%
j. Coaching on communication (n =55)	14.3%	30.4%	19.6%	17.9%	16.1%	1.8%
k. Coaching on advocacy process (n = 55)	12.5%	33.9%	33.9%	8.9%	8.9%	1.8%
l. Information / coaching from legal counsel to prepare for proceedings (n = 55)	42.9%	30.4%	17.9%	1.8%	5.4%	1.8%
m. Resources & time from employer for report writing (n= 55)	25%	39.3%	19.6%	5.4%	8.9%	1.8%
n. Monitoring of workloads by employer prior to 'hearings / proceedings' (n = 55)	23.2%	30.4%	25.0%	8.9%	10.7%	1.8%
o. Employer ensuring staff rosters (house surgeons, registrars) prior to proceedings are appropriate (n = 53)	21.4%	30.4%	28.6%	7.1%	7.1%	5.4%
p. Train & educate hospital management to understand / support specialists during the process (n = 54)	28.6%	37.5%	16.1%	7.1%	7.1%	3.6%
q. Allocated education time at conferences regarding medico-legal processes (n = 55)	19.6%	33.9%	28.6%	5.4%	10.7%	1.8%
r. List of national support people / resources (n = 55)	17.9%	28.6%	25.0%	17.9%	8.9%	1.8%
s. Information for spouses / partners (n = 55)	14.3%	25.0%	39.3%	10.7%	8.9%	1.8%
t. Support networks for spouses / partners (n = 55)	14.3%	17.9%	21.4%	28.6%	16.1%	1.8%

4.3.2 Tertiary Interventions

Tertiary approaches to occupational stress usually focus on the relief of a stress condition for the individual. Suggestions **for tertiary support** in Table 4.47 are 32a) access to hospital counselling; 32b) access to an independent psychologist and 32d) Access to Drs' Health Advisory Service (DHAS). Figure 4.33 below is a bar chart of this data selected from Table 4.47 and shows the frequencies of perceived usefulness of access to hospital counselling and access to an independent psychologist.

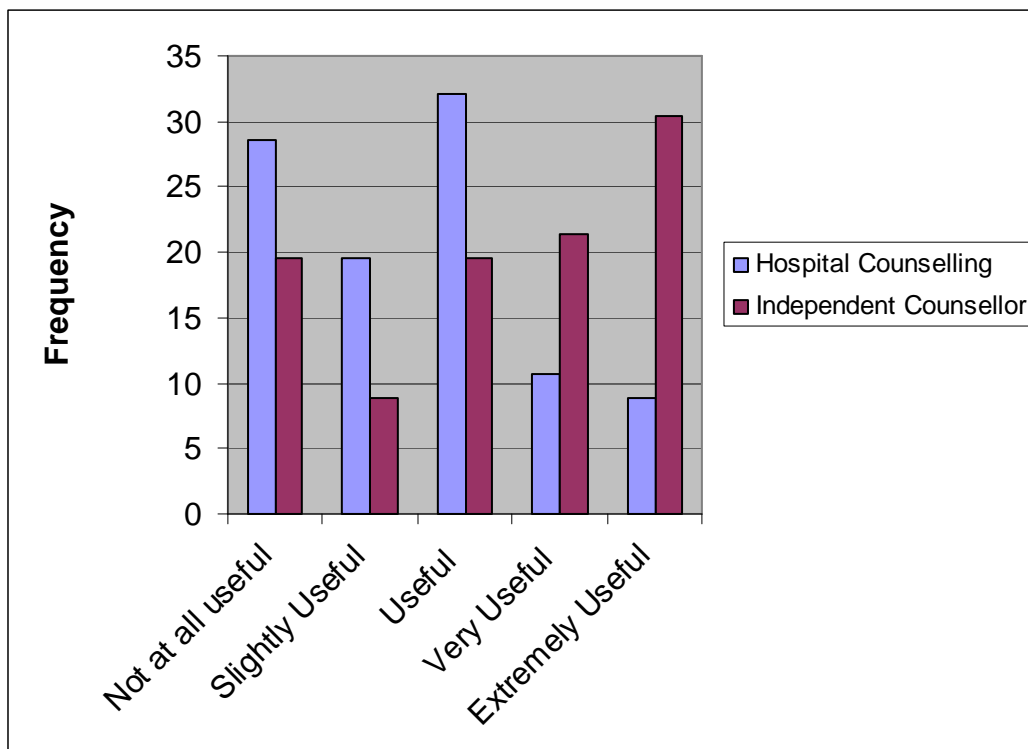


Figure 4.33: Tertiary Support Responses for Specialist Counselling

Overall, the cumulative percentage of the ratings 'useful', 'very useful' and 'extremely useful' for 32a – Access to hospital counselling - was 51.7%. The cumulative percentage of the same ratings for 32b – Access to independent psychologist - was 71.4%; and Access to Drs' Health Advisory Service (DHAS) was 55.3%. Thus, the specialists showed a clear preference for access to an independent psychologist as tertiary support during a medico-legal process.

4.2.3 Secondary Interventions

Secondary strategies focus on reducing the impact of the stress response and encourage the specialists to be more resilient to the stressor. Suggestions for support are grouped into organisational and individual strategies.

Suggested **secondary individual strategies** include:

- 32c – Support of a nominated hospital peer / mentor (75%)
- 32h – Stress risk assessment and management programme (62.4%)
- 32l – Information / coaching from legal counsel to prepare for proceedings (91.2%)
- 32s – Information for spouses / partners (78.6%)

The overall cumulative percentage of the ratings ‘useful’, ‘very useful’ and ‘extremely useful’ are in brackets for each strategy and this is diagrammatically shown in Figure 4.34 below. All of the suggested secondary individual strategies could be implemented as they are mutually exclusive. The high weighting placed on preparation for legal proceedings suggest that this is an area, that if focused on, may reduce anxiety prior to the event.

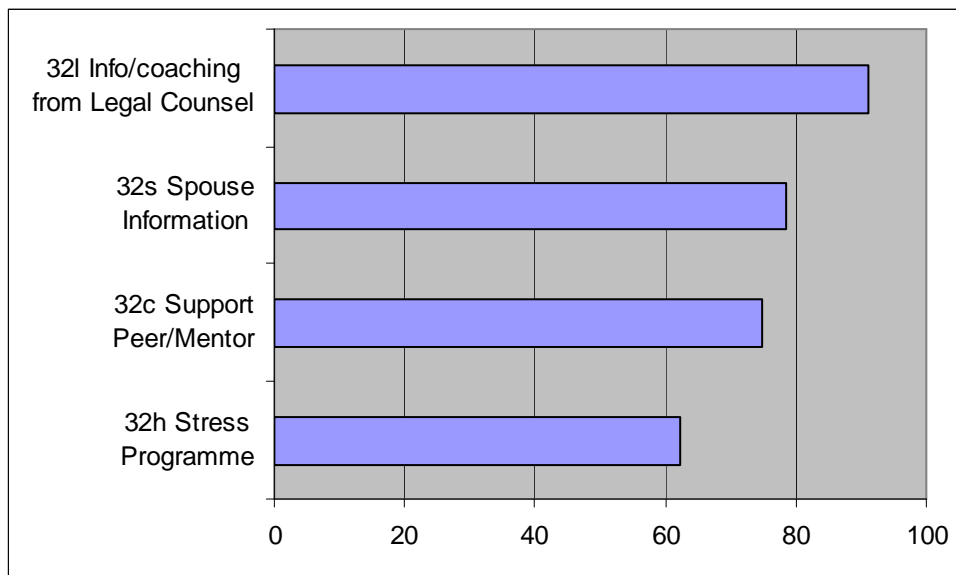


Figure 4.34: Secondary Individual Strategies - Cumulative Response Frequency (Percentage) of ‘Useful’, ‘Very Useful’ & ‘Extremely Useful’

Secondary organisational interventions focus on organisational development to reduce the stress response to a medico-legal process.

Suggestions for **secondary organisational interventions** are:

- 32e - Support networks arranged by Specialist College / Association (78.6%)
- 32f - Information on emotional reactions to litigation, eg video, manual (59%)
- 32m - Resources and time from employer for report writing (83.9%)
- 32n - Monitoring of workloads by employer prior to hearings/proceedings (78.6%)
- 32o - Employer ensuring staff rosters (house surgeons, registrars, and nurses) prior to proceedings are appropriate (80.4%)

The overall cumulative percentage of the ratings ‘useful’, ‘very useful’ and ‘extremely useful’ are in brackets for each strategy and this is diagrammatically presented in Figure 4.35 below.

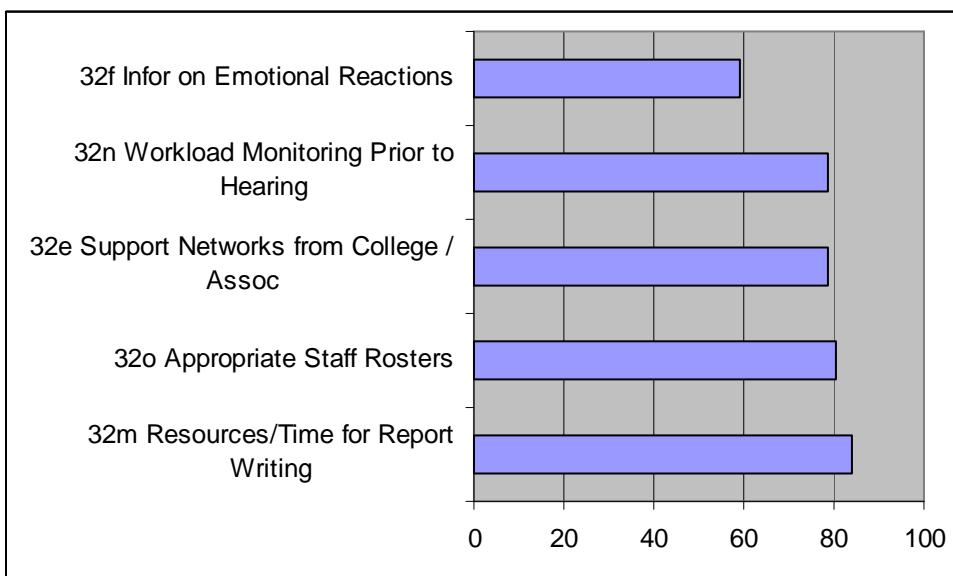


Figure 4.35: Secondary Organisational Interventions - Cumulative Response Frequency (Percentage) of ‘Useful’, ‘Very Useful’ & ‘Extremely Useful’

NZ’s health sector is complex in structure and systems, with many different agencies / organisations participating in the medico-legal process. Responsibility for support for specialists’ well-being is diverse and not well defined. However, the DHBs have a clear responsibility regarding their employees’ occupational health and safety, including stress.

Items 32m, 32n, and 32o are the responsibility of the DHBs and, perhaps, private hospital management in the case of 32o – Appropriate staff rosters.

4.3.4 Primary Interventions

Primary interventions for stress focus on preventing work stress before it occurs. Suggestions for primary interventions in this study are:

Organisation Level

- 32g – Information on how to support colleagues (62.3%)
- 32t – Support networks for spouses / partners (53.5%)
- 32q – Allocated education time at conferences regarding medico-legal processes (82.1%)
- 32r – List of national support people / resources (71.5%)
- 32p – Train and educate hospital management to understand / support Specialists during the process (82.2%)

The overall cumulative percentage of the ratings ‘useful’, ‘very useful’ and ‘extremely useful’ are in brackets for each strategy and this is diagrammatically presented in Figure 4.36.

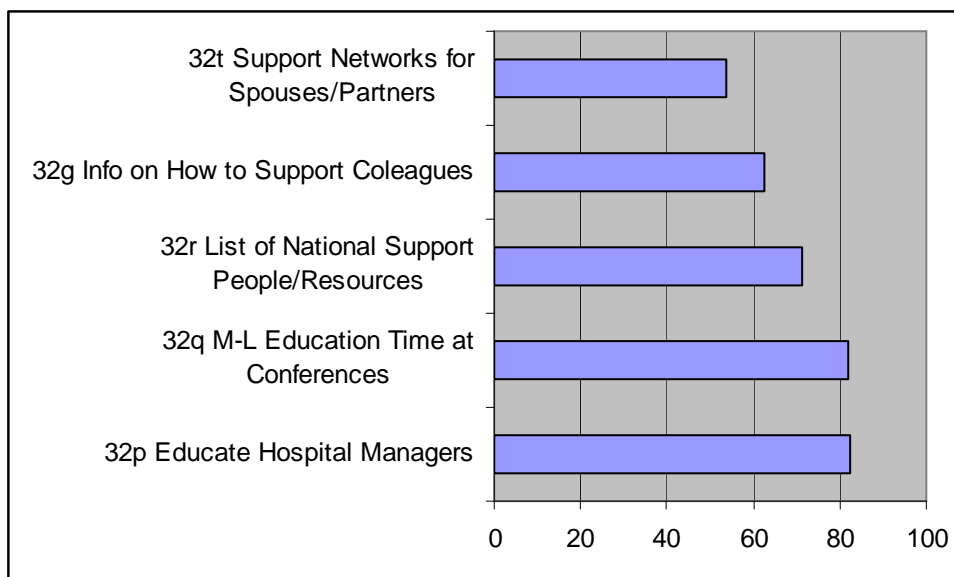


Figure 4.36: Primary Organisational Strategies - Cumulative Response Frequency (Percentage) of ‘Useful’, ‘Very Useful’ & ‘Extremely Useful’

There are three primary organisational strategies with high ratings of usefulness as preventative strategies. One of these was the allocation of education time at conferences regarding medico-legal processes. Item 32r was also rated highly and this included a national list of support people and resources that could be accessed by specialists. These would be the domain of the Specialist Colleges / Associations. The other primary strategy that was rated highly was training and educating hospital

management in how to support specialists. This would be the responsibility of each hospital and should probably be a nationally coordinated effort to ensure consistency and best use of resources.

Individual Level

32i – Coaching on coping / resiliency skills (66.1%)

32j – Coaching on communication (64.3%)

32k – Coaching on Advocacy process (80.3%)

The overall cumulative percentage of the ratings ‘useful’, ‘very useful’ and ‘extremely useful’ are in brackets for each strategy. This is diagrammatically presented in Figure 4.37 below.

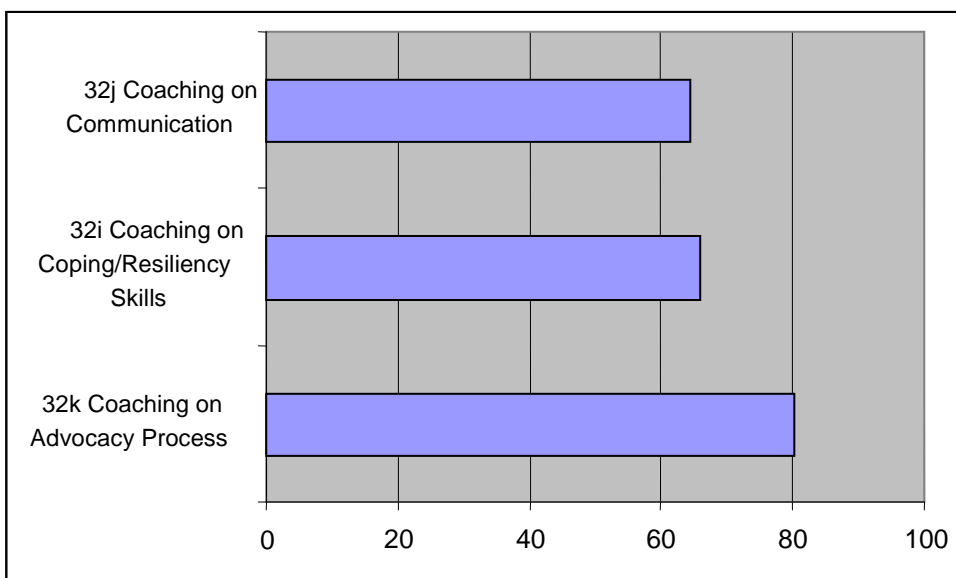


Figure 4.37: Primary Individual Strategies - Cumulative Response Frequency (Percentage) of ‘Useful’, ‘Very Useful’ & ‘Extremely Useful’

For individual primary preventative strategies, item 32k - coaching on the advocacy process - was highly rated. This training is usually coordinated by the Health & Disability Commissioner.

4.4 Chapter Summary

This chapter contains the quantitative research results of the survey of medical specialists for this study on HR strategies needed to support NZ specialists undergoing a medico-legal process. The research findings were divided into three sections to mirror that of the literature review. The fourteen research hypotheses were addressed within each of these three sections, including the associated descriptive and inferential statistics.

Section One: Medico-legal Impacts (Sub-problem One) dealt with the results for the two principal research questions for Sub-problem One. The first question is: *'What is the perceived level of distress experienced by medical specialists during a medico-legal process?'* Associated to this research question were Hypotheses 1- 10. The second principal question was exploratory and had no associated hypothesis and asks: *'To what extent did the medico-legal process impact on the specialist's relationship with their spouse / partner and was support offered to the spouse / partner?'*

The results showed that the respondent specialists reported higher than predicted levels of distress, as measured by the IES, and that they may be at risk of developing PTSD. This was regardless of whether or not the medico-legal outcome was favourable or unfavourable. The results could find no evidence of a relationship between gender and the level of distress experienced. However, there was evidence of a relationship between the IES Avoidance scores and the length of time taken to resolve the medico-legal situation.

The research results supported the hypothesis that the greater the overall level of distress, the more the specialists will agree that the medico-legal process caused or exacerbated a physical or psychological condition.

The results also showed a positive relationship between the levels of distress experienced by a specialist and the perceived threat (primary appraisal) of the medico-legal process to their professional identity and reputation. However, no evidence was found to support the hypothesis that the greater the perceived control (secondary appraisal) over the outcome of the medico-legal processes, the lower would be the level of distress experienced by the specialists.

In the situation where there was a death of a patient and a subsequent appearance in a Coroner's Court or Disciplinary Hearing, the results showed a relationship between the Overall IES and Avoidance scores and the cause/exacerbation of a physical condition, but no evidence of a relationship with the cause / exacerbation of an

emotional condition. Eight (14.3%) specialists discussed the possibility of medico-legal stress with their employers, while only one specialist requested sick leave.

The results showed that the most trying medico-legal process had a detrimental impact on 23.5% spousal relationships, while there was a constructive impact on 26.8% spousal relationships and no impact on 42.9% of relationships. Only one specialist indicated that support was offered to the spouse / partner during the medico-legal process.

Section Two: Social Support and Medico-legal Stress (Sub-problem Two)

dealt with the results for the two principal research questions from Sub-problem Two. The first question is: *'To what extent were the types of support (emotional / instrumental) and the source of support important to medical specialists and how satisfied were they with the support received?'* There were three hypotheses associated with this question, Hypotheses 11 -13.

The research results found that, overall, 'spouse' and 'immediate colleagues' were the most important sources of emotional and instrumental support for a specialist undergoing a medico-legal process. However, there was only one negative discrepancy between the importance and satisfaction of social support and that was for the emotional support from immediate colleagues in relation to its perceived importance. Legal Counsel and specialist colleagues were also ranked highly in importance for emotional and instrumental support. Hospital management and hospital HR managers were near the bottom of the rank for satisfaction of emotional and instrumental support.

In Cutrona's (1990) optimal matching theory of support, the most influential dimension is that of the controllability of the stressors. When events are uncontrollable, Cutrona (1990) predicts that the most optimal match is emotional support that will minimise the negative emotional reactions to the event. If a situation or event is perceived to be controllable, then the most appropriate actions would be 'problem-focused coping' strategies (Lazarus & Folkman, 1984), which would require 'instrumental support' including information and tangible assistance (Cutrona, 1990).

In the NZ medico-legal context, the research results could find no evidence to support the optimal matching theory of Cutrona (1990), except for the emotional and instrumental support from 'Colleagues in Private Practice' (22g), which showed a moderate significant relationship.

The results showed that specialists placed a higher importance on the emotional and instrumental support from colleagues than on organisational support. Likewise, the

specialists' satisfaction with collegial social support was higher than their satisfaction with organisational support.

The results showed a positive relationship between five sources of **emotional support** and perceived levels of distress in terms of the importance-satisfaction gap: the greater the importance-satisfaction emotional gap, the higher the perceived distress level (as measured by the IES overall score for the sub-items 'spouse', 'other specialist colleagues', 'colleagues with similar experience', 'other staff' and, finally, the 'union representative').

In addition, the results showed a positive relationship between two sources of **instrumental support** and perceived levels of distress in terms of the importance-satisfaction gap. These two sources of instrumental support were 'Other specialist colleagues' and 'Specialist Association' in that the greater the importance-satisfaction gap, the higher the perceived level of distress (as measured by the IES overall score).

A gender difference was found regarding the importance of 'immediate' and 'other specialist' collegial emotional support being more important to female specialists than to male specialists during a medico-legal process. In addition, female specialists place more importance on, and were more satisfied with, the emotional support of 'other staff' (eg nurses).

An Importance-Performance analysis was undertaken on the 22 sources of emotional and instrumental support. This analysis was extended to the four main categories of sources of social support, and IP graphs were generated to guide the allocation of resources.

Section Three: HRM Strategies to Support Specialists (Sub-problem Three) summarized the responses to support suggestions for specialists going through a medico-legal process. The interventions were classified into primary, secondary and tertiary and these were ranked according to the percentage of specialists who perceived them as useful.

The following chapter, *Chapter Four*, provides a discussion on the research results in relation to HRM strategies and recommendations for stakeholders to support specialists through a medico-legal process in NZ. The limitations of this research will be highlighted, and recommendations for future research will be identified.

CHAPTER FIVE

DISCUSSION, RECOMMENDATIONS AND CONCLUSION OF RESEARCH PROGRAMME

This chapter provides discussion, recommendations and a conclusion on the research into the Human Resource Management Strategies Needed to Support NZ Medical Specialists Undergoing a Complaints/Disciplinary Process or Coroner's Inquest.

It includes an overview of the research programme and a discussion of the main empirical research findings in relation to the impacts of medico-legal stress and the social support experienced by the specialists. Then HRM strategies are recommended to support medical specialists through a medico-legal process.

Theoretical and methodological implications of this research will be considered, including the limitations. Finally, recommendations will be made for future research.

5.1 Statement of the Problem

NZ occupational health and safety legislation now includes workplace stress as a 'hazard' and it is the legal responsibility of employers, and employees, to prevent and manage workplace stress. Overseas' research has shown that medico-legal processes are a stressful experience for medical practitioners, however there has been no published research that quantifies the stress impact of medico-legal processes on NZ specialists. Likewise, there is no NZ research that identifies the social support important to medical specialists during such a process. For these reasons, in NZ, specialist Colleges and DHB human resource managers do not have a full understanding of the extent to which specialists are affected by medico-legal processes, nor do they understand the appropriate support strategies to implement.

This research used a self-administered questionnaire, to **firstly** investigate the perceived medico-legal stress experienced by NZ specialists and how this was affected by the variables of gender, outcome time to resolution, death of a patient and cognitive appraisal. **Secondly**, to investigate the impact of medico-legal processes on both the specialist's emotional and physical well-being and their spousal / partner relationships. **Thirdly**, the research explored the types and sources of social support that were important to a specialist going through a medico-legal process, including how satisfied they were with the support received. **Finally**, this study identified various occupational interventions that may be useful to support specialists in the future. The results from this study were presented in the previous chapter and these will now be discussed.

5.2 Discussion of the Results and Recommendations for HRM of NZ Medical Specialists Undergoing a Medico-legal Process

5.2.1 Overview of Medico-legal Stress Experienced by NZ Specialists

Level of Medico-legal Stress

One of the principal research questions was to identify the perceived level of distress of NZ medical specialists as a result of a medico-legal process. The reported levels of stress, as measured by the IES, were higher than what was predicted with 55.4% of specialists in the 'moderate to severe' range of stress and 30.4% of specialists in the 'mild to moderate' stress category. Only 14.3% of specialists fell into the subclinical category of Post Traumatic Stress Disorder (PTSD) symptoms. The mean for the overall IES score was 28.80 ($SD = 16.51$). These findings indicate that specialists undergoing a medico-legal process may be at risk of developing PTSD symptoms.

How does this compare to overseas' studies? In a comparative study, 362 Swedish ambulance workers had a mean Overall IES of 15.20 (Jonsson, Segesten & Mattson, 2003:82). Another study by Hyman (2004: 152) on the prevalence of secondary traumatic stress symptoms of Israeli police forensic technicians found a mean Overall IES score of 22.29 ($SD = 13.98$). Thus, the Overall IES mean for NZ specialists is higher than that found in both the Swedish and Israeli studies.

This study supports previous overseas' research (Charles et al., 1984; Martin et al., 1991; Nash et al., 2004; Couch & Thiebaud, 2002) and more recent NZ research (Cunningham, 2004) showing that medico-legal processes are a stressor for doctors / physicians.

Posttraumatic Stress Disorder (PTSD)

The term 'trauma' is used in overseas' literature on medico-legal stress (Charles et al, 1984; Couch & Thiebaud, 2002) implying that a medico-legal process may result in posttraumatic stress symptoms as well as 'occupational stress.' If this is the case, then PTSD requires different medical and management interventions.

Ballenger et al., (2000: 61) states that 'underlying PTSD is often undetected by the physician' as these people may present with depression. He maintains that PTSD is strongly associated with suicide and compares with depression in terms of its impact on careers and relationships. Shalev (2001) identified that some people present with symptoms of PTSD six months or more after a traumatic event and are then diagnosed with 'delayed-onset' PTSD.

The Horowitz IES does not provide a definitive diagnosis of PTSD; however, it is a valid measure for two *symptoms* of PTSD - not for 'hyperarousal'. The high mean Overall IES score for NZ specialists suggests that the notification of a complaint, death of a patient and subsequent medico-legal processes may produce *symptoms* of PTSD in specialists. One specialist from this NZ study noted that a PTSD diagnosis was a direct result of a medico-legal process.

Medico-legal Outcome

Research on American physicians found that the profound emotional distress of being sued was not affected by the outcome of the malpractice litigation (Charles et al., 1988; Couch & Thiebaud, 2002). In this study, 53 specialists had their medico-legal process resolved. Of these, 46 (86.8%) specialists reported a favourable outcome, while 7 (13.2%) reported an unfavourable outcome. Those specialists with an unfavourable

outcome had mean Overall IES scores that were all slightly higher than those specialists with a favourable outcome. However, there was no evidence of a relationship between the level of perceived stress and the outcome of the medico-legal process. Thus, this NZ research supports the American findings that a medico-legal experience **is** a stressful experience for medical specialists **regardless** of the final outcome being favourable or unfavourable.

Medico-legal Resolution Time

The length of time taken to resolve a medico-legal issue may be a factor that increases litigation stress in American and British physicians (Charles et al., 1984; B-Lynch et al., 1996). In this study, the time taken to resolve a medico-legal process was less than 24 months for 78.6% of the specialists and over 24 months for 17.9% of specialists. There was no positive relationship with the Overall IES score and resolution time for the medico-legal process. However, there was a positive relationship between the **Avoidance** IES score and medico-legal resolution time - Spearman's rho of .279 and *p*-value .037.

Creamer et al. (1992: 458) suggest that 'avoidance' behaviour is a coping strategy initiated by the distress of the intrusive memories of a trauma. They state:

It appears that avoidance is initially a direct result of a high level of intrusive memories. Over time, however, the avoidance behaviour may become entrenched as a coping strategy in its own right and be less dependent on high levels of intrusion.

Thus, the reliance on 'avoidance' as a coping strategy in the long term by NZ specialists may be maladaptive and could be associated with psychological symptoms.

Gender and medico-legal stress

Overseas' research (Theorell, 2000) has found that women physicians have a higher rate of suicide than men. Redinbaugh et al. (2003) found that female doctors showed more psychological distress over the death of a patient and required more social support to cope. In addition, Ballenger et al. (2000) found that workload and social support were predictors of somatic conditions in women doctors while, in the general population, PTSD occurs more frequently in women than in men. However, there is no literature in NZ to identify any gender differences regarding medico-legal distress and resulting social support requirements.

In this study, the IES scores were correlated with the gender of the respondents. Although the female specialists had slightly higher mean stress scores than the males on

all three of the IES scores, the *p*-values were all greater than .05. Thus, there was no evidence of a relationship between the level of medico-legal stress and gender. However, a larger sample size in a longitudinal, prospective study may support a gender difference.

Patient Death and Medico-legal Inquiries

A patient death and public inquiry has been shown to have an emotional impact on overseas' doctors (Redinbaugh et al., 2001; Regehr, 2003; Parker & Lawton, 2003; Ritter, 2003).

In this NZ study, only three specialists came under the category where there was a patient death **and** a Coroner's Court or Disciplinary Hearing involved. The finding from this study partially supports the overseas research, as greater Overall and Avoidance IES scores were associated with causing a physical but not an emotional condition. The lack of correlation between a patient death and an emotional condition may be due to the very small number of specialists that came under this category, thereby limiting conclusions on this aspect.

5.2.2 Impact of Medico-legal Stress on Specialist Well-being, Relationships and Work

Impact on Well-being: Strain

Overseas' research has shown that medico-legal stress has both short and long term health effects on physicians (Charles et al.,1984; Martin et al., 1991; Nash et al., 2004). This NZ study suggests a similar result as 12.7% of the specialists 'strongly agreed / agreed' to the statement that a medico-legal process had affected their **physical** health. In the questionnaire, the respondents were given an opportunity to elaborate on how their physical health had been affected. Thirteen respondents offered explanations and these included the following:

- Exaggerated stress reaction
- Flare-up in arthritis
- Unknown brain lesion found and then disappeared, cause unknown
- Headaches
- Hypertension
- Exacerbation of asthma
- Ongoing insomnia and anxiety
- Paroxysmal atrial fibrillation
- Auto-immune disease – colitis

Questionnaire responses identified that 23.6% of specialists perceived that the medico-legal process had affected their emotional / psychological health. Their explanations included the following:

- Clinical depression
- Depression (x 5)
- Post Traumatic Stress Disorder
- Sleep disturbance (x 4)
- Severe distress (x 2)

Nonparametric correlation analysis between the physical and emotional / psychological health impacts and the levels of distress as measured by the IES showed a correlation with all three IES scores. All the *p*-values were quite low in the vicinity of .001 showing that the greater overall level of distress, the more the specialists agreed that the medico-legal process exacerbated or caused a physical or psychological condition.

Impact on Spousal / Partner Relationships

This study shows that the medico-legal process had a detrimental impact on spousal/partner relationships for 23.5% of the specialists surveyed, with a constructive impact on 23.2% of relationships. Interestingly, support was offered to only one 'spouse' of the 50 specialists with a spouse/partner during the medico-legal process. Fourteen specialists gave further explanations about the impact the medico-legal process had on their relationship. Three of the comments were about how supportive their spouse/partner was, for example:

Spouse was very supportive and tolerant of my blue moods, fearfulness and tiredness.

Adverse comments revealed two relationships were terminated as a direct result of the medico-legal process. Other comments about the detrimental impact included the following:

- Hard to focus on anything else
- I kept work issues to myself, but my mood was irritable for a year
- I was stressed, cranky and uncommunicative on the home front
- Extremely stressful on marriage

These comments clearly portray some of the emotional issues and feelings experienced by specialists during the process. The detrimental impact on personal relationships can compound what is already a stressful time for specialists undergoing a medico-legal process. Heads of Departments, managers and colleagues should also be

aware of any situations where there may be little personal support for a specialist, for example:

My husband was ill at the time and he required considerable support and he was unable to give any to me.

Impact on Work

Healthcare work in NZ is categorised as 'Category Four', that is: **work content** that involves a number of intrinsic stressors that are difficult to eliminate or isolate. The focus is then on minimizing the impact of these stressors through appropriate primary, secondary and tertiary interventions.

The questionnaire requested that specialists elaborate on work changes resulting from a medico-legal process. The comments fell into four main categories: changes in work load, changes in work scope, defensive medicine and improving the quality of work practice. The changes in **workload** included the following:

- Brought public clinic to my rooms
- Cancelled a week's operating at the public hospital
- Cut down clinical work for a month
- Spent less time in the public sector
- Separated from my wife so reduced work load to be sole dad to my daughter
- I put less cases on each operating list

This research found that 15 specialists (26.8%) changed the scope of their work or adjusted their **workload** as a result of a medico-legal process, while 41 (73.2%) specialists made no changes.

Three specialists indicated that they had changed their **work scope** as a result of a medico-legal process. These comments included:

- Forced to resign from my position and I no longer work as a doctor
- Gave up the particular area of practice involved in the litigation
- Left the speciality, should have taken stress and sick leave

Other specialists indicated that they practised **medicine more defensively** and these comments included the following:

- More careful about choosing patients to operate on in terms of their emotional stability
- More careful with those that may be medico-legal ones. Give the patient more than I usually would
- Reduced the scope of complex cases and greater use of second opinion
- Stopped practising the risk areas of speciality and now work part time
- I spend longer on each major operation

Some comments indicated that the specialist became more concerned about quality / risk management and these included the following:

- I spend longer with patients generally, and specifically prior to planning surgery and will rarely proceed to major surgery after the first visit so that more time is spent discussing possible complications
- I meticulously plan each case and try to use equipment and techniques that helps to reduce complications
- More inclined to document management instructions in notes to protect myself
- Improved documentation

This research therefore, showed a significant impact on work practices in that 26.8% of the NZ specialists initiated changes after the experience of a medico-legal process. As 89.2% of specialists in this study were involved in DHB work, this may be an issue for further investigation.

5.2.3 Cognitive Appraisal of a Medico-legal Process

This research is based on the transactional stressor-strain model of Lazarus and Folkman (1984) of which cognitive appraisal is a central component. They maintain that cognitive appraisal acts as a mediating variable between a stressful situation and the subsequent adaptational outcomes. The stressor-strain model identifies two kinds of cognitive appraisal that can affect the coping strategies required. These are the primary appraisal of the stressor, which is the appraisal of *threat*, and the secondary appraisal, which is the appraisal of *controllability*. Likewise, Charles et al. (1988) maintains that the way physicians appraise a medico-legal situation will affect the impact that this event subsequently has on their well-being.

Appraisal of Threat

To assess the primary appraisal of *threat* in the NZ context, the specialists were asked to what extent the most trying medico-legal process was a threat to their professional identity and reputation. Thirty-one (55.4%) specialists perceived that the medico-legal process was a ‘moderate/major/extreme’ threat to their professional identity and reputation. The responses from this item were then correlated against the IES scores for distress and it was found that all three of the IES scores had *p*-values of less than .0005. There was a strong correlation between the Intrusive and Overall IES scores and a moderate correlation between the Avoidance score.

These research findings, therefore, show that the perceived level of ‘threat’ has a positive relationship with the level of distress experienced by the specialist such that the NZ situation appears to support the Lazarus & Folkman (1984) theory of primary appraisal. However, despite the high levels of perceived threat, 46 (82.1%) of the specialists had a favourable outcome to their medico-legal process. The Cunningham

(2004) study found a similar situation whereby 83.4% of NZ complaints were dismissed by the HDC.

In this study, the greater the overall level of distress, the more the medico-legal process exacerbated or caused a specialist a physical or psychological condition. Importantly, it appears that NZ specialists perceive that the medico-legal threat is greater than what it actually is. Thus, if NZ specialists lowered their perception of the medico-legal threat, there may be a subsequent lowering of distress (IES score) and of the resultant adverse physical and psychological conditions.

Appraisal of Controllability

The secondary cognitive appraisal of ‘controllability’ is when the individual evaluates whether or not they can do anything to diminish the potential harm or improve the situation by mitigating the impact of the stressor. To assess how the specialist cognitively appraised the controllability of their most trying medico-legal process, they were asked to what extent they felt it was possible to control / influence the outcome of the process. The responses to the question resulted in a cumulative percentage of 91.1% of specialists holding the perception that they had ‘definitely no control’ or ‘some control’ over the outcome of the process. Nonparametric correlation of the perceived controllability responses was tested against the IES scores.

Interestingly, in this study, there was no evidence to support the Lazarus and Folkman (1984) theory of secondary cognitive appraisal of *controllability*, whereby perceived control over the outcome of the medico-legal process would act as a mediating variable, resulting in lower levels of specialist distress.

5.2.4 Coping with a Medico-legal Process

The transactional approach (Lazarus & Folkman, 1984) to stress and coping is situation-specific, such that emotion-focused and problem-focused coping strategies are used to minimize the emotional response triggered by the stressor to eliminate/reduce the particular source of the stress. The two coping strategies are usually used together in dealing with a particular stressor. As there is no literature in NZ to show the coping strategies used by specialists in a medico-legal context, the questions in this survey were qualitative and exploratory.

Emotion-focused Coping Strategies Used by Specialists to Deal with Reactions after a Medico-legal Process

To explore the emotion-focused coping strategies used by specialists, they were asked how they dealt with their **emotional/physical reactions** during their most trying

medico-legal situation. The qualitative responses were grouped into eight main categories, namely: discussion with others, medication, prayer, exercise, meditation, counselling, nothing different, suicide thoughts. Some specialists used a number of emotional coping strategies, while others only gave one.

The first category of '*discussion with others*' was used by 17 specialists and this included spouse, colleagues, nurses, friends and colleagues who had been through a similar experience. One specialist mentioned 'major emotional flashbacks experienced', then commented:

It was difficult to get peer support as my personal guilt for a very misjudged course of action was severe.

The second category of emotional coping was '*medication*'. This was used by five (9%) specialists for depression and to assist with sleeping. Seven (12.5%) specialists indicated that they used '*prayer*' as a means of emotional coping, while four (7.1%) specialists used '*exercise*' to specifically deal with the emotional reactions. '*Meditation*' was used by two (3.6%) specialists and six (10.7%) specialists used a '*counselling service*'. Continuing on as normal and doing '*nothing*' in particular was a coping strategy used by 10 (17.9%) specialists. One specialist had '*suicide thoughts*' and commented:

I used the knowledge that suicide was an option to cope with the stressors and to get through them. It was a consoling thought.

The specialist experiencing suicide thoughts had the highest overall IES score of 60, was one of three specialists that had the highest IES Intrusive scores of 35 and had the second highest score for IES Avoidance of 25.

Problem-focused Coping Strategies Used by Specialists to Actively Deal with the Medico-legal Process

To explore the problem-focused coping strategies used by specialists to minimize the effects of the stressor, specialists were asked how they actively dealt with their most trying medico-legal situation.

The qualitative responses were grouped into eight main categories, namely: legal advice & process; talking to colleagues/ spouse & others; counselling & medication; nothing in particular; exercise & meditation; scope of practice change; avoidance/withdrawal. Some specialists gave a number of problem-focused coping strategies while others gave only one. Several of the problem-focused strategies were the same as what was used for emotional-focused coping.

The first category of '*legal advice and process*' was the most prevalent and used by 21 (37.5%) specialists. This category involved talking with, and seeking advice from, legal counsel and the insurance company as well as dealing promptly with the required paperwork. One specialist commented that:

The best support was the Medical Advisor at MPS who was from the same speciality. Helped to calm, instruct me on how to write reports and checked them before submission.

The second category of '*talking to colleagues, spouse and others*' was used by nine (16.1%) specialists. '*Counselling and / or medication*' was used as a coping strategy by five (8.9%) specialists, while eight (14.3%) specialists did '*nothing in particular*' and carried on as usual. '*Exercise and meditation*' were used by five (8.9%) specialists to assist in minimizing the stressor.

Two (3.6%) specialists '*changed their scope of practice*' including:

- Asking colleagues to share difficult decision-making
- Asked for light duties for four weeks to avoid any misjudgment during call and stressful work

One specialist, who had experienced suicidal thoughts, used '*avoidance/ withdrawal*' as a strategy to minimize the stressor commenting:

I spent most of my time alone in a dark room trying to avoid any type of sensory impact

The comments made by some specialists give a raw insight into the extent of personal stress they experienced as a result of a medico-legal process. Also shown is the range of coping strategies used.

5.2.5 Summary of Medico-legal Stress and Impacts Experienced by NZ Specialists

It is clear that the first step in risk management of occupational stress is to identify the hazards or stressors. The findings from this research show that a medico-legal process is an **occupational stressor** for NZ medical specialists with the mean Overall IES score falling into the category of 'moderate to severe' for symptoms of PTSD. Alarmingly, over 50% of the specialists involved in a medical-legal process fell into this 'moderate to severe' distress category.

In this study, interestingly, 89.2% of the specialists were employed by the DHBs, in either a fulltime or part time capacity. This research has clearly shown that medico-legal stress should be an occupational health and safety issue for the DHBs as these organisations are employers of specialists and have a legal responsibility to take

all ‘practicable steps’ to ensure the safety of employees while at work, including harm from work-related stress.

Of value, too, is that this research should assist the individual specialist to understand that their reactions and feelings to a medico-legal process are ‘normal’. There is indeed some credence to the statement by Wu (2000) that a doctor who makes a mistake is the ‘second victim’. The sooner this aspect is recognized, the sooner corrective measures can be taken.

The next section gives a discussion on the results of the importance of and satisfaction with the types and sources of social support NZ specialists experienced during a medico-legal process.

5.3 Overview of Social Support Experienced by NZ Specialists Undergoing a Medico-legal Process

The previous chapter summarised the results of the IP analysis into four main categories of: social support, family support, collegial support, organisational support and other support. These categories and their value will now be discussed.

5.3.1 Family Support

The most important source of family support for specialists going through a medico-legal process was that of their spouse / partner. Findings from this research show that the spouse /partner of a specialist was the most important source of *emotional* support, with a mean of 3.78 and they were ranked second after ‘immediate colleagues’ as a source of *instrumental* support, with a mean of 3.06. In addition, the mean satisfaction level of the support from the ‘spouse’ was rated very highly. Using IP analysis the ‘spouse’ as an individual source of social support, fell into Quadrant II - Keep up the good work.

The high mean importance and satisfaction of the level of spousal social support during a medico-legal process does appear to have a downside. In this study a medico-legal process had a detrimental impact on 23.5% spousal/partner relationships. Of particular note is that only one specialist’s spouse was offered any support.

This research found a positive correlation of .38 between the gap score (importance-satisfaction) of spousal support and the Overall IES score with a *p*-value of .008. That is, the larger the spousal support importance-satisfaction gap, the higher the specialist distress level was, as measured by the IES. Nine specialists had a positive gap between the importance and satisfaction of spousal support and all nine specialists had

overall IES scores 20+, with seven specialists scoring 26+ (moderate to severe distress). As this is a cross-sectional study, it can demonstrate a correlation between spousal support and the level of medico-legal distress, but it cannot prove causality. Future longitudinal research may be able to prove causality between spousal support and medico-legal distress.

5.3.2 Collegial Support

Overseas' research (Fenlason & Beehr, 1994) has found that the best source of social support for people experiencing workplace stress would be from others in the workplace. Thoits (1986) found that the most successful support-givers were those who had been through similar stressful experiences. This research on NZ specialist medico-legal stress supports both overseas' findings.

Findings ranked collegial *emotional* support second, third and fourth after spousal support for the 22 sources of social support. *Emotional* support from 'immediate colleagues' had a mean of 3.78; 'colleagues with similar experience' had a mean of 2.94; and 'other specialist colleagues' had a mean of 2.71. Findings for sources of *instrumental* support ranked 'immediate colleagues' first with a mean of 3.12 and 'spousal' support second. 'Colleagues with a similar experience' were ranked fourth with a mean of 2.77, followed by 'other specialist colleagues' with a mean of 2.77.

This research highlights the **importance** of 'immediate colleagues' as a source of *emotional* and *instrumental* support for NZ specialists undergoing a medico-legal process. However, when it came to measuring the mean **satisfaction** of *emotional* support of 'immediate colleagues', they were ranked third from the bottom and were the only source of *emotional* support to have a positive discrepancy – that is their importance was rated higher than the satisfaction they provided. An IP analysis of the *emotional* support received from 'immediate colleagues' and 'other specialist colleagues' fell into Quadrant 1 (Concentrate here). This means that NZ specialists perceive that the emotional support from these colleagues needs improving. Although the mean for 'colleagues with a similar experience' was in Quadrant 11 (Keep up the good work), this was right on the mean gridline for satisfaction.

This implication of borderline satisfaction was found by regrouping the 22 sources of social support into the four main categories of family, colleagues, organisation and other. This showed that the category of collegial *emotional* support was bordering the satisfaction gridline just inside Quadrant II.

The results indicated that the **importance** of, and **satisfaction** with, collegial *instrumental* support from ‘immediate colleagues’ and ‘colleagues with similar experience’ were more closely aligned, so that these sources fell into Quadrant II (Keep up the good work). However, ‘immediate hospital management’ (ie the clinical Head of Department) fell into Quadrant I (Concentrate here) indicating the specialists dissatisfaction with the support received from their HODs.

Another finding of note was the positive correlation between the gap score (importance-satisfaction) of ‘other specialist colleagues’-*emotional* support and the overall IES score with a correlation coefficient of .32 and a *p*-value of .04. Likewise, ‘colleagues with a similar experience’-*emotional* support had a correlation coefficient of .46 and a *p*-value of .005. So the larger the ‘collegial support’ - *emotional* importance-satisfaction gap, the higher was the specialist distress level as measured by the IES, with seven specialists scoring 26+ on the overall IES.

This study also found a positive correlation between the overall IES score and the gap between importance-satisfaction for *instrumental* support from ‘other specialist colleagues’ with a correlation coefficient of .42 and a *p*-value of .03.

Gender and Collegial Support

This NZ research did find gender differences regarding the importance and satisfaction of some sources of *emotional* and *instrumental* support. Female specialists rated the importance of *emotional* support more highly from ‘immediate colleagues’ (*p*-value = .007) and ‘other specialist colleagues’ (*p*-value = .03) than did their male counterparts. In addition, female specialists placed more importance on the *emotional* support of ‘other staff, eg nurses’ (*p*-value = .05) and were more satisfied with this *emotional* support (*p*-value = .04) than were male specialists.

5.3.3 Organisational Support

In this study, NZ specialists ranked ‘hospital senior management’ as 12th in **importance** (mean 1.61) as a source of *emotional* support but ranked them higher, at 10th, as a source of *instrumental* support (1.65). Yet they ranked ‘hospital senior management’ down at second to last in terms of **satisfaction** with their *emotional* support (mean 2.00) and a mere 3rd from the bottom in terms of **satisfaction** with their *instrumental* support (mean 1.84).

Similarly, specialists ranked ‘HR managers’ 15th in **importance** as a source of *emotional* support (mean 1.26) and *instrumental* support (mean 1.27). However, they

were the least satisfied with ‘hospital HR managers’ (mean 1.46) and ranked them last in terms of **satisfaction** as a source of *emotional* support and 2nd to last (1.70) in **satisfaction** with *instrumental* support.

The IP analysis for *emotional* and *instrumental* support placed ‘hospital senior managers’ and ‘hospital HR managers’ in Quadrant III (Low priority). When the specialists’ comments were analyzed, this finding appears to be the specialists’ perception of the current situation rather than the ideal situation. In the DHBs, it is usually the role of senior management, including the HR manager, to ensure that systems and processes are in place to minimise occupational stress and to promote a healthy work environment. The fact that they are ranked so low in importance and satisfaction as a source of social support may suggest that they do not have a clear understanding of the impact and extent of medico-legal distress prevalent among specialists.

Organisational Culture and Communication

The NZ government’s National Strategy for Health (2003) and the National Guidelines for the Promotion of Healthy Working Environments (2006) are two key documents promoting the development of a health sector culture that values and supports the workforce. Principle One of a healthy work environment (HWAC, 2006: vii) includes, amongst others, the following:

- Will have the health and wellbeing of the person as its primary objective
- Reflects a culture that values employees and promotes trust between staff

In this study, specialists were asked whether they had discussed the issue of possible medico-legal stress with their employer / DHB and the impact that this may have on them professionally and personally. The results show that only eight (14.3%) specialists discussed the issue of stress with their employer, while 48 (85.7%) did not. Of those 48 specialists, 38 (67.9%) indicated the reason was that they ‘did not feel stressed by the process’, it ‘could be disadvantageous to their career’ (21.4%) and 19.6% indicated that this ‘may be seen as a sign of weakness’. This suggests that there may not be a strong supportive organisational culture of communication and trust between management and the medical specialists.

In the questionnaire, specialists were given the opportunity to give other reasons why they had not spoken to their employers about possible medico-legal stress, 29 (51.8%) made an additional comment. Of those comments, five were related to the fact that the medico-legal process occurred in private practice where the specialist was self-employed. One specialist commented that the medico-legal event occurred while she

was away on maternity leave and that it had been resolved by the time she had returned to work! Two other specialists felt supported in the process by colleagues and did not feel the need to discuss the issue with management. Another specialist commented:

I became severely depressed and was basically incapable of discussing this with anyone.

Sixteen comments were made with the role of hospital management and included the following:

- Didn't see how they could be of assistance
- Didn't think this was an option
- Discussions with management would not be of any value
- Have no forum to meet management. No indication of who would be suitable or who should be spoken to
- Hospital had no insight or understanding
- Hospital management unsupportive. They were more concerned with the financial implications for them in meeting the patient's demands
- Management not interested in listening
- Management not interested (x2)
- Management too removed from the situation to appreciate the issues involved. Did discuss case with colleagues
- My stress concerning the complaint was not perceived to be an issue by my employer
- No confidence in management. Not approachable
- No point in discussing it with management
- No process – management not usually interested except in protecting themselves
- Not much they could do as locums not available
- Spoke to management but no impact
- They weren't interested as the case arose from a hospital commissioned report that excluded me. I was the 'fall guy' for the institution

The above comments suggest that there is a perception by specialists that hospital management is not interested or approachable on the issue of medico-legal stress; and that specialists do not have confidence in management's ability to provide meaningful support. It would appear that specialists are unaware of a clearly defined system or process of support within the DHB to assist them with medico-legal distress. Firth-Cozens (2004: 58) points out that poor communication between management and staff in hospitals may be an indication that there is not a high level of trust in the doctor-management relationship.

Thus in terms of medico-legal processes, this research suggests that the aim of a supportive environment with open communication, as espoused by Principle One of a Healthy Work Environment, and Goals 7 and 8 of the Ministry's national quality strategy for health (identified in Chapter One) have not yet been achieved.

5.3.4 Other Support

The two most important sources of 'other support' for NZ specialists going through a medico-legal process were their legal counsel and their Specialist College / Association.

Legal Support

As a source of *instrumental* support, legal counsel was ranked 3rd in importance with a mean of 2.82. Interestingly, ‘legal counsel’ was ranked 5th in importance as a source of *emotional* support, after ‘spouse’ and ‘colleagues’. In the IP analysis of *instrumental* and *emotional* support, ‘legal counsel’ was located in Quadrant II (Keep up the good work).

In the questionnaire, specialists were able to make comments regarding further suggestions for support. The following comments concern the legal process and support:

- A formalized hospital legal resource that acts for the specialist, not against him/her by trying to push blame off the institution and on to the individual. Some colleagues have been unreasonably crucified and received either zero help or buck-passing from the institution.
- Legal counsel, while very good on what to expect from the process, didn’t seem to understand the effect on the person. More personal support would be helpful.
- My greatest concern during the process was the objectivity and reliability of the allotted expert witness who had a reputation for inappropriate and unsubstantiated opinions. The Commissioner may do better in some cases to have more than one expert review the case to ensure objectivity and fairness.

These comments by the specialists could be investigated in future research on medico-legal processes or be pursued by the Council of Medical Colleges at a policy level.

Specialist Association Support

In this study, NZ specialists ranked the importance of *emotional* support from their ‘specialist association’ at 13th with a mean of 1.43. This is not surprising as on a day-to-day basis, the specialist Association would not have much contact with an individual specialist. Interestingly, the respondents ranked the specialist Associations as 14th in importance as a source of *instrumental* support, yet these organisations are there to represent the needs of their members. In the IP analysis, the specialist Association fell into Quadrant III (Low priority) for both *emotional* and *instrumental* support.

There was a correlation between the gap scores (importance-satisfaction) of *instrumental* support from the Specialist Association and the overall IES distress scores with a p – value of .02. Five specialists placed a higher importance on their specialist association as a source of instrumental support but this was not matched by their satisfaction. These specialists had an overall IES score of 26+, placing them in the moderate to severe category of symptoms of distress.

5.3.5 Summary of Social Support Experienced by NZ Specialists

This research found that overall the ‘spouse’ and ‘immediate colleagues’ were the most important sources of *emotional* and *instrumental* support for a specialist undergoing a medico-legal process. However, the only negative discrepancy between an importance and satisfaction of social support was the finding for *emotional* support from immediate colleagues. Findings showed a positive relationship between the level of stress *and* the importance-satisfaction gap of five sources of *emotional* support and two sources of *instrumental* support. This would suggest that improvements in social support from these sources may reduce the level of perceived stress.

5.4 Human Resource Management Strategies Needed to Support NZ Medical Specialists Undergoing a Medico-legal Process

The HRM interventions ranked by NZ specialists as being useful during a medico-legal process are grouped into three main categories. The first intervention category is ‘primary’ and these interventions will be aimed at *preventing* medico-legal stress. Secondary interventions are aimed at the individual to *change or prevent a detrimental reaction* to the medico-legal stressor, while the tertiary interventions are targeted at the individual specialists to *reduce / treat the symptoms* of medico-legal stress. Within each of the three intervention categories are three levels: individual strategies, organization strategies and national strategies.

5.4.1 Primary Interventions

5.4.1.2 National Strategies

Results from this study suggest that a medico-legal process caused ‘serious harm’ to some respondents, with the potential to cause work-related physical and psychological illness. Thus the key ‘primary’ intervention at a national level is for medico-legal processes to be identified as a potential ‘significant hazard’, as defined by the HSE Act. Then the DHBs, as employers, must take all ‘practicable steps’ to minimize the potential ‘harm’, and the specialist Colleges / Associations should ensure that medico-legal stress becomes a *national* issue to be proactively managed.

The Ministry of Health, specialist Colleges and DHBs should all be aware that medico-legal processes cause specialist workplace stress and this has the potential for flow-on effects in the healthcare sector. The Council of Medical Colleges and specialist Colleges should provide **leadership** in this important issue. A primary approach to

minimise medico-legal stress and achieve improvement in the quality of a specialist's work-life should be initiated at a national level. This should involve:

- the development and promotion of a national framework for the minimization and management of medico-legal stress
- facilitation of interagency communication and liaison between all key stakeholders
- funding further research on medico-legal stress and its impacts in comparison to other countries
- assisting specialist Colleges and DHBs to proactively improve the management of the medico-legal process within their organisations through the sharing of knowledge and information
- a feasibility study into the creation and funding of a 'Medical Practitioners' Wellness Unit' that would nationally prioritize, coordinate and evaluate research and interventions to improve the health of medical practitioners. This could incorporate the existing Doctors' Health Advisory Service.
- Actively encouraging and rewarding the DHBs for implementing the HWAC's 'Healthy Work Environment Guidelines'.

There are numerous stakeholders in this multi-faceted issue of medico-legal stress. In addition, there has been little research on the extent and impact of medico-legal processes in NZ and, until now, no research on the support strategies the specialists may need. This research now provides some quantitative findings that could be used to develop and implement appropriate support strategies to minimise medico-legal stress. These findings could also be used as an evaluation measure for future research. Crucial to all of this is that clear responsibilities and budgets are nationally identified to implement any of the research recommendations.

5.4.1.2 Organisational Strategies

Firth-Cozens (2001: 217) states that minimising the stress and psychological disorders of doctors is an important part of risk management for hospitals to reduce the potential for medical adverse events. Overseas' research (Jones, Barge, Steffy, Fay, Kunz & Wuebker, 1988: 727) has found a moderate to strong relationship between malpractice risk and a stressful workplace. Those hospitals that introduced organisation-wide stress management interventions had significantly fewer medico-legal claims.

This research has shown that medico-legal processes have caused distress to NZ specialists, including physical and emotional impacts (strain). Medico-legal stress is, therefore, a potential risk for the DHBs in terms of their obligations under occupational health and safety legislation and any resulting ‘personal grievances’. Under current health and safety legislation, a specialist must raise a personal grievance within 90 days of the grievance occurring or coming to the employee’s notice. And yet this research has shown that NZ medico-legal processes can drag out from less than one year to over four years. Thus, it may be years before a specialist realizes that they have suffered ‘harm’ from workplace stress. NZ law now recognizes the concept of ‘delayed discoverability’ (Scott-Howman & Walls, 2003: 80). This may result in specialists raising a personal grievance for medico-legal stress after the process is completed.

In addition to the risk of personal grievances, DHBs should assess the risk of specialists suffering from medico-legal distress and the potential negative impacts on patient healthcare.

Secondly, the DHBs should be aware of the flow-on effects of medico-legal processes on specialist work practices, in particular that of ‘defensive medicine’ and the effect on the utilization of healthcare resources. Thirdly, the fact that there is a worldwide shortage of specialists and an aging NZ population may mean that those DHBs that have a high level of medico-legal incidents and / or are perceived to be unsupportive may be at risk of not being able to attract or retain medical specialists.

This research has shown the importance of collegial emotional and instrumental support for specialists going through a medico-legal process. Findings have indicated that there is an importance-satisfaction gap regarding ‘immediate collegial’ emotional support (i.e. support from colleagues who are in the same speciality and in day-to-day contact with the specialist going through a medico-legal process). These colleagues would be necessary to fulfill Cutrona’s ‘esteem support’ (1990), such that they provide reassurance of the specialist’s ability and competence to continue practising effective medicine.

The Council of Medical Colleges should consider the development of a training information package, including suggestions for emotional and instrumental support, which could be used nationally to assist specialists to understand what their colleagues are going through during a medico-legal process. Study findings rated such a strategy as being ‘extremely useful; very useful; useful’ by 62.3% of specialists.

Regarding other strategies suggested, 82.1% of specialists surveyed suggested that education time to deal with medico-legal processes should be allocated at

conferences. If this was noted by each Specialist College / Association, perhaps a collaborative arrangement could be entered into such that each speciality followed a similar programme of medico-legal topics and speakers.

In addition, a systematic training / education of clinical directors in DHBs should be considered to assist the social support of colleagues and junior staff during medico-legal processes and to narrow the perceived divide between hospital management and clinicians. Hospital managers should also have a greater understanding of daily routines, time pressures, clinical loads and the stress of medical staff to assist in overcoming that doctor-manager gap. Research findings gave training and education of hospital management to understand and support specialists during a medico-legal process a cumulative rating of 82.2% for 'extremely useful; very useful; useful'. With this in mind, the DHB clinical directors could be the liaison person with the Council of Medical Colleges to ensure that a similar education / training programme is available for appropriate hospital managers and staff.

Although this research did not specifically cover the aspect of organisational culture, the reasons given for not discussing the possibility of medico-legal stress with employers and the additional comments from respondents would suggest that there is an opportunity to improve organisational processes, communication and trust between the specialists and DHB management during a medico-legal process.

However, the apparent lack of trust between the DHBs and specialists would suggest that the DHB clinical directors should initially play a prominent role in liaising with external agencies (eg Council of Medical Colleges and specialist Associations) to identify and facilitate any new support strategies.

A primary strategy for individual specialists could be 'support networks arranged by the specialist Colleges /Associations' and 78.6% of the respondent specialists thought that this would be 'useful; very useful; extremely useful'. Thus, there is a real opportunity for the specialist associations to improve their service and support to members going through a medico-legal process, thereby diminishing any negative impacts.

5.4.1.3 Individual Strategies

Preparation for the stress of a medico-legal process should be considered at the undergraduate and graduate education level. Tel-Aviv University, in Israel, has introduced a stress prevention and management practicum to help health workers cope with the demands of healthcare work (Kushnir, Malkinson & Ribak, 1998: 169). This

programme is based on a cognitive-behavioural model and in addition to stress management aims to reduce ‘irrational / dysfunctional thinking patterns’ (Kushnir et al., 1998: 169). This type of programme could be useful as a coping mechanism during a medico-legal process.

Exercise and meditation were used as a coping mechanism by 8.9% of the specialists in this study and there may be scope for a more proactive approach using ‘mindfulness / meditation’ training as part of a compendium of strategies to cope with medico-legal distress.

The Imperial College London Business School and School of Medicine have developed a programme where medical undergraduates can take a one-year BSc in management as one of their science year options. Students from this programme (Atun, 2003: 655) have commented that:

The course prepared them for better teamwork, broadened their horizons, and enabled them to think more innovatively about delivering services.

A broader management education at any medical undergraduate /postgraduate level may provide a greater understanding of the challenges of healthcare management and the importance of teamwork in the provision of healthcare, including prevention of medico-legal stress.

Inadequate communication and interpersonal skills have shown to be associated with patient complaints (Stelfox et al., 2005) and an increased risk of burnout (Ramirez et al., 1996). These same factors may hinder a doctor going through a medico-legal process. This study showed that 64.3% of NZ specialists perceived that ‘coaching on communication’ would be ‘useful; very useful; extremely useful’. The importance of interpersonal communications between doctor and patients, as well as their technical competence, seem to be a critical component of patient care and may make patients less inclined to file a complaint (Moore, 2000). To implement such an important component in NZ, coaching in communication and interpersonal skills could be organised by the Council of Medical Colleges in collaboration with specialist Colleges and training universities to ensure consistency.

Doctors have been found to be reluctant to seek medical advice for their own health problems (Kay et al., 2004) and this NZ research has shown that the majority of participant specialists did not discuss the issue of medico-legal stress with employers - 38 (67.9%) specialists surveyed said they did not discuss it with management because they ‘did not feel stressed by the process.’ However, the IES scores, the impact on

emotional and physical well-being, as well all the comments would suggest that the specialists were actually unaware of their level of distress.

Research findings indicated that 66.1% of the NZ specialists surveyed thought that ‘coaching on coping / resiliency skills’ would be ‘useful; very useful; extremely useful’. As Prof Schattner (2004) highlights, these interventions would have to be appropriately tailored to suit those *troubled* specialists who are significantly affected by medico-legal stress but are still capable of practising, and those specialists *dissatisfied* with the health system and its demands and who may be at risk of burnout. Further research would have to be carried out to identify what intervention or prevention programme would be beneficial to improve coping and resiliency.

5.4.2 Secondary Interventions

5.4.2.1 National Strategies

A medico-legal process may be stressful for all concerned and more efficient management of adverse events through mediation or advocacy as an alternative form of dispute resolution may result in reduced use of healthcare resources and medico-legal stress (B-Lynch et al., 1996). Training on how to communicate with families and patients during a trying event could be incorporated into the training at medical school. This research found that 80.3% of the specialists indicated that ‘coaching on the advocacy processes’ would be ‘useful; very useful; extremely useful’. Advocacy training is presently provided by the office of the Health & Disability Commissioner. Perhaps the Council of Medical Colleges (CMC), specialist Colleges and the DHB medical directors could ensure that advocacy training / coaching is also readily available to specialists and other practitioners as a national strategy to prevent medico-legal stress

The specialist Colleges / Associations, DHBs and the Medical Council need to develop a pro-active strategy of specialist support for the future. An element of this strategy should be to contract an agency to develop a comprehensive education package to assist specialists to understand the potential impacts of a medico-legal process, to know the social support sources available and to teach emotion-focused and problem-focused coping strategies.

Gender differences need to be taken into account in any strategy development. The findings from this study appear to support overseas’ research showing that female specialists place a different importance on sources of social support. This needs to be addressed by female specialists, hospital management and specialist Colleges when planning medico-legal stress management interventions.

5.4.2.2 Organization Strategies

HR practitioners usually use ‘absenteeism’ and ‘absenteeism trends’ as an indication of work-related / personal stress and as a criteria for further investigation (Cole et al, 2005). These research findings show one (1.8%) specialist took stress leave for seven days and no specialists requested sick leave. If this is compared to the mean Overall IES score of 28.80 ($SD = 16.51$) classified as ‘moderate to severe distress’, this would suggest that absenteeism is **not** an appropriate indicator of medico-legal stress for NZ medical specialists.

A reason that specialists do not request occupational stress leave from a DHB could be that they require a medical certificate to prove they have a mental condition relating to standard medical diagnostic criteria, eg the DSM-IV. The treating medical practitioner is then obliged to inform the Vocational Council under the HPCAA if they have concerns about the specialist’s mental illness. Another reason could be that the work environment is not conducive to taking stress / sick leave because a greater burden of work could then fall on colleagues (especially if locums are unavailable) and patient healthcare may be delayed.

This research has shown that there is an opportunity for senior hospital management and HR managers to improve their understanding of the impact of medico-legal process so that more supportive processes can be instigated within the DHBs. HR managers will need to work with appropriate agencies to implement systems that are designed to: minimize medico-legal distress, monitor and recognize developing stress/fatigue, recognize impairment and promote understanding of how the work environment and non-work related situations affect emotions and stress. They will have to work more closely with clinical directors to promote trust and an improvement in manager-physician relationships. To prevent and manage medico-legal stress in NZ, HR practitioners need to not only be concerned with traditional / transactional HR activities but also be more orientated to macro and strategic transformation of HR practices in the healthcare sector (Lepak et al., 2005).

Thus, there is a real opportunity for specialist Colleges and Heads of Departments to improve their *emotional* and *instrumental* support to their fellow specialists during a medico-legal process. This can be achieved by increasing the awareness of the impacts of medico-legal stress and acknowledging the importance of collegial support at conferences and within the DHBs by medical directors.

This research showed that NZ specialists *voluntarily* changed aspects of their work-scope and work-load in response to a medico-legal process, however, 50% of

breach reports of the Code of Rights involve public hospitals and systems errors (HDC annual report, 2003). Therefore DHBs, as employers, also have a responsibility to monitor and adjust workloads of those NZ employees who are in a situation that is potentially hazardous to health, especially in Category Four work (which is what specialists are classified under). For specialists undergoing a medico-legal process, this would mean ensuring that: outpatient clinics are not overloaded, operating lists are not extended, after hours call work is monitored and scheduling of junior and nursing staff is appropriate prior to Coroner Court Inquests and other disciplinary hearings. Additional time and resourcing may be required to write medico-legal reports.

When asked to rate the usefulness of certain support strategies in the questionnaire, 83.9% of specialists indicated that resources and time from employers for report writing would be 'useful; very useful; and extremely useful'. In regard to monitoring of workloads prior to hearings / proceedings, 78.6% of specialists agreed that this would be 'useful; very useful; and extremely useful'. Similarly, 80.4% of specialists indicated that employers ensuring that staff rosters (house surgeons, registrars and nurses) prior to proceedings are appropriate would be 'useful; very useful; and extremely useful'. These research findings suggested that some simple changes to work design would be beneficial for specialists undergoing a medico-legal process.

5.4.2.3 Individual Strategies

This research has shown that the specialist's perception of the level of 'threat' of the medico-legal process is correlated with their level of distress. These research findings of *threat appraisal* impacting on well-being appear to support the findings of Charles et al., (1988), as well as the cognitive appraisal component of the Lazarus and Folkman (1984) stressor-strain model. Thus, cognitive therapy may be an appropriate intervention to change the meaning / threat of the medico-legal situation as suggested by Charles (2001).

The Importance-Performance Analysis of the emotional and instrumental support from legal counsel fell into the quadrant 'keep up the good work'. Overseas' research has shown that doctors want more information and training regarding the legal process and realities of being in a 'hearing/court' situation (Bark et al., 1997). This research appears to support these findings, as 91.2% of the sample rated 'information/coaching from legal counsel to prepare for proceedings' as being 'useful; very useful; extremely useful'. Notably this was the highest rating out of the 20 suggestions for support and indicates the perceived importance of this form of support.

Another individual strategy to support specialists would be through the ‘support of a nominated hospital peer /mentor’. Of the respondents to this study, 75% indicated that this would be a ‘useful; very useful; extremely useful’ strategy. This could take a similar format to the ‘Malpractice Support Committee’ that was formed by the HealthTexas Provider Network in America to proactively provide emotional support for sued doctors as discussed in the literature review.

5.4.3 Tertiary Interventions

5.4.3.1 National Strategies

This research has shown that specialists do not easily take stress or sick leave for a medico-legal process, even though they may feel stressed. A strategy to remedy this problem would be for the union to negotiate with the DHBs a period of stress leave to be taken during a medico-legal process without the requirement of a ‘mental’ diagnosis from a medical practitioner.

Another area of concern is the incidence of PTSD symptoms occurring in specialists after a medico-legal process. Counsellors, medical practitioners, and DHBs as employers should be aware of this to enable them to support the individual and the organization in such a situation.

Finally, as part of any national support and education strategy, specialists need to understand that counselling is an ‘acceptable’ form of social support for medico-legal stress.

5.4.3.2 Organisation Strategies

A review of overseas’ research by Kirk and Brown (2003) could not provide a complete endorsement of Employee Assistance Programmes (EAP) as a successful intervention in the management of workplace stress. In particular, Kirk and Brown (2003) raise the issue of confidentiality when the providers of an EAP intervention are internal to the organization. In a medico-legal situation where a specialist may be feeling distressed, as well as experiencing feelings of shame and guilt (Charles, 1984; Brazeau, 2001; Cunningham, 2004), it is unlikely that the specialist will seek out collegial / managerial support or counselling without empathetic understanding.

The findings from this research have suggested that there is not a high level of trust in the doctor-management relationship, only 14.3% of specialists discussed the possible issue of stress with their employer. One of the reasons for not doing so was the ‘concern about confidentiality’, which was cited by seven (12.5%) specialists. This

concern may have also been why the specialists showed a clear preference for ‘access to an independent psychologist’ (71.4% rated this as ‘useful; very useful; extremely useful’) as opposed to ‘access to hospital counselling’ (55.3% rated this as ‘useful; very useful; extremely useful’).

These findings highlight a real need for employers, the specialist Colleges and the specialist unions in NZ to ensure that there is an option for specialists going through a medico-legal process to easily access a free, appropriate and confidential, external counselling service. This counselling service needs to advise on how the medico-legal process can impact specialists’ health and relationships, with strategies offered to minimize any harm.

5.4.3.3 Individual Strategies

A strategy to provide ‘information for spouses / partners’ on medico-legal stress coupled with a ‘support network’ could reduce any detrimental affect on a specialist’s personal relationship. The findings from this research indicated that 78.6% of specialists perceived that ‘information for spouses/partners’ would be ‘useful; very useful; extremely useful’, while 53.5% thought that a ‘support network for spouses/partners’ would be beneficial.

There is indeed an opportunity for the Council of Medical Colleges and the specialist Colleges to prepare an information and training package for spouses/partners, similar to that required for specialist colleagues, to assist in understanding reactions to medico-legal stress, with options for emotional and instrumental support.

As a source of emotional and instrumental support, the *importance* of a ‘private counsellor’ was ranked 13th in both instances with a mean of 1.37 and 1.35. However, the *satisfaction* with the emotional support from the private counselor was 3.71 and ranked 2nd after that of the ‘spouse’. This may suggest that counselling services are not yet acknowledged by specialists as an optional source of social support for medico-legal distress. However, some suggestions from the respondents did include interest in this form of support:

- If I have another case like this I would go to a counsellor
- A skilled counsellor / psychologist who can take you through the emotional consequences as you feel you need it
- Understanding how other colleagues have dealt with similar processes

The Doctors’ Health Advisory Service was ranked last in **importance** as a source of emotional and instrumental support for a medico-legal process. This may

seem odd given the service hinted at by its title. However, the reason for this may be that, traditionally, it has been seen to be a service for doctors who have addiction and other emotional / behavioural issues. Therefore, information needs to be provided to specialists regarding the benefits and *acceptability* of counselling as a source of social support to encourage them to access this type of service earlier.

Those specialists whose medico-legal process is not resolved in less than 24 months should be monitored, as there is a positive correlation between the Avoidance IES score and process resolution time.

5.4.4 Summary of HRM Interventions

Following the identification and assessment of an occupational stressor, the third step in risk management is to develop preventative and control measures. The aforementioned HRM strategies that have been recommended to support NZ specialists going through a medico-legal process have been summarised in Table 5.1 on the following page. Lamontagne (2001: 83) maintains that primary preventative interventions should have priority over the other stress management interventions (SMIs) in order to effectively impact on the source of the stressor. Identifying, assessing and managing specialist medico-legal stress should be undertaken in a framework that encompasses policies at a national level that will promote their implementation at the organisational and individual level (Dollard, 2001).

A number of the HR strategies recommended to manage medico-legal stress may be useful in the management of other workplace stress experienced by NZ specialists.

Any SMIs introduced need to be comprehensive, such that they not only address individual specialists' issues but also those of the hospital / health environment, as well as the interface between the two. The SMIs should comprise a mix of tertiary, secondary and primary interventions that 'share the common goal of altering the sources of, responses to, and the effects of stress' (Lamontagne, 2001: 83) and they should be evaluated for effectiveness to ensure evidence-based practice.

SMIs should not be compulsory for specialists but should be developed and accessed with the participation and consent of all the stakeholders concerned.

Table 5.1: Summary of Recommended HRM Strategies to Support NZ Medical Specialists undergoing a Medico-legal Process

	PRIMARY INTERVENTIONS	SECONDARY INTERVENTIONS	TERTIARY INTERVENTIONS
INDIVIDUAL STRATEGIES	<ul style="list-style-type: none"> • Education / training at medical school on m-l stress • Mindfulness training • Meditation • Personal health awareness /personality type • Exercise • Communication Training • Management training 	<ul style="list-style-type: none"> • Support from hospital peer/mentor • Stress risk assessment & prevention • Information for spouses • Information / coaching from legal counsel • Advice on emotional & problem-focused coping strategies • Cognitive reframing • Change in work scope / workload • Collegial support 	<ul style="list-style-type: none"> • Counselling through hospital • Independent counselling • Relationship counselling • DHAS • Counselling & support networks for spouse • Stress leave • Collegial support • Medical care • Monitoring of resolution time
ORGANIZATION STRATEGIES	<ul style="list-style-type: none"> • Support networks for spouse/partner • Allocated education time at conferences on m-l issues • Educate hospital managers on m-l issues • Improve DHB organisational culture • Improve DHB management-specialist trust • Communication training • Develop pro-active system & network of support by specialist associations 	<ul style="list-style-type: none"> • Develop proactive m-l stress monitoring processes (not absenteeism) • Promote understanding of the impact of m-l processes • Work Design <ul style="list-style-type: none"> - Resources & time for report writing - Monitoring of workloads - Staff Rosters • Awareness of gender issue for emotional support • Provide independent, free counselling 	<ul style="list-style-type: none"> • ‘Pressure leave’ without need for medical certificate • Department workload changes • Awareness of PTSD as an outcome of m-l stress
NATIONAL STRATEGIES	<ul style="list-style-type: none"> • M-l stress identified as a potential ‘hazard’ • Interagency co-ordination • Strategy for m-l education & support • Encourage DHBs to actively implement Healthy Work Environment Guidelines • Feasibility of Medical practitioners ‘Wellness Unit’ • Funding to develop & implement m-l research plan 	<ul style="list-style-type: none"> • Information on emotional reactions to litigation • Awareness of gender issue for social support • Information on coping strategies • Legal coaching • Advocacy coaching 	<ul style="list-style-type: none"> • Union negotiates m-l stress leave • List of local counsellors / agencies

5.5 Theoretical and Methodological Implications for Medico-legal Stress

This research has extended knowledge on the impact of medico-legal processes on NZ specialists by providing a theoretical framework (see Figure 3.1 in Chapter 3) that demonstrates the critical variables and multidimensional aspects contributing to medico-legal stress. This theoretical model is based on the stress-strain-coping model of Lazarus and Folkman (1984), and the literature review has identified additional critical components for a medico-legal process. Longitudinal studies are required to confirm any causal relationships between the variables in this theoretical framework, however this research has identified some variable correlations.

There was a positive correlation between the Overall level of distress and the exacerbation of a physical or psychological condition from a medico-legal process. Likewise, there was a positive correlation between the death of a patient and a subsequent ‘hearing’ appearance *with* the overall IES score and a resultant physical condition, but not with an emotional condition.

The cognitive appraisal of ‘threat’ and ‘control’ are important variables in the stress-strain-coping transactional model of Lazarus and Folkman (1984). This research could find no evidence to support the correlation between perceived ‘control’ over the outcome of the medico-legal process and the subsequent level of distress experienced. However, the results from this research did show a positive relationship between the levels of distress experienced by a specialist and the perceived ‘threat’ of the medico-legal process to their identity and reputation.

Lazarus and Folkman (1984) suggest that appropriate social support may have a moderating or buffering effect on stressors. The findings from this research suggest that such a ‘moderating effect’ may be present, as a positive correlation was found between levels of distress *and* the importance-satisfaction gap for five sources of *emotional* support. However, the findings from this research were not conclusive with regard to the suggestion by Lazarus and Folkman (1984) that appropriate social support may have *buffering* effect on stressors. To determine this, in a NZ medico-legal process, would require a longitudinal, prospective study.

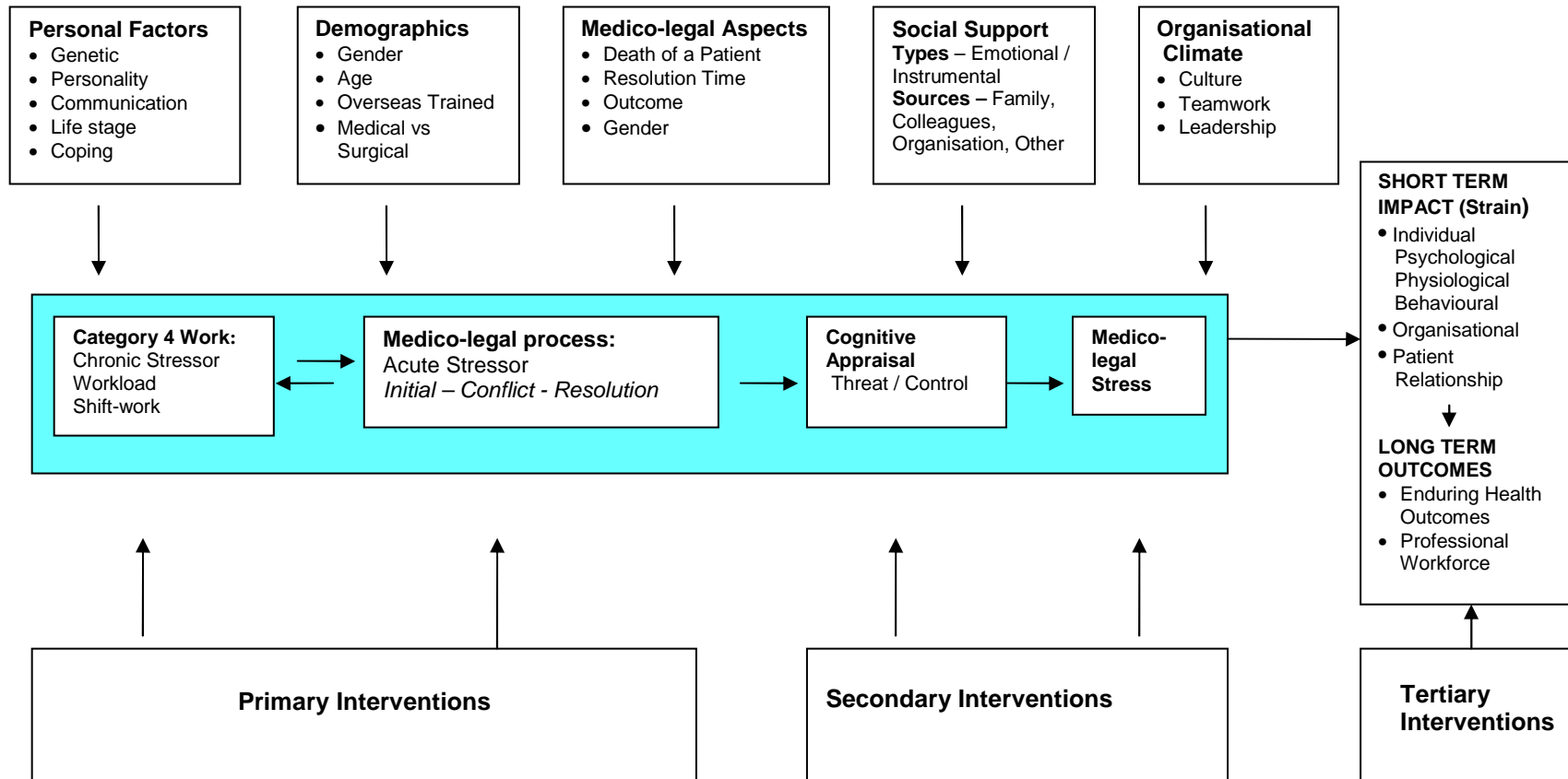
Problem-solving and emotion-based coping strategies, as identified by Lazarus and Folkman (1984), were explored in this research to identify the current strategies used by NZ specialists in coping with the distress of a medico-legal process.

Using the Cutrona (1990) 'Optimal Matching Theory' of social support this research attempted to answer the issue of what was the optimum support for NZ specialists undergoing a medico-legal process. Cutrona (1990) proposed matching specific types of stress with specific social support, where the most influential dimension is that of 'controllability' of the stressors. When events are uncontrollable, Cutrona predicts that the optimal match is that of emotional support that will minimise the negative emotional reactions to the event. If a situation or event is perceived to be controllable, then the most appropriate support would be 'instrumental', which includes information and tangible assistance.

This NZ research, within a medico-legal context, could find no evidence to support the 'optimal matching theory' of Cutrona (1990), except for the emotional and instrumental support from 'colleagues in private practice', showing a moderately significant relationship. The need for 'esteem support' was evident by the fact that the specialists rated the emotional and instrumental support of their specialist colleagues higher than that of the organization.

In conclusion, this research, firstly, has offered a theoretical contribution by using the transactional stress-strain-coping framework of Lazarus and Folkman (1984) and Cutrona's Optimal Matching Theory (1990) by applying them to a national, professional group of people in a situation-specific context. Having done that, the researcher has now revised the theoretical framework identified earlier in order to reflect the learning from this project (See Diagram 5.1 on the following page). This may provide a guide for future areas of research on medico-legal stress.

Figure 5.1: Revised Research Framework for Medico-legal Stress



Secondly, this research has made a **methodological** contribution as it has, for the first time, quantified the perceived level of medico-legal distress experienced by NZ specialists using the Impact of Event Scale (Horowitz et al., 1979). The IES is a validated and reliable instrument and the IES scores from this study may provide a benchmark for future NZ studies and international comparisons.

From the literature review, this appears to be the first time that the Importance-Performance Analysis (IPA) has been applied to social support, such that the **importance** and **satisfaction** of **types** and **sources** of support could be assessed. The IPA has been used in service industries to measure quality (Scott, Mannion, Davies & Marshall, 2004; O'Neill & Palmer, 2004) and was first introduced by Martilla and James (1977). The application of this IPA methodology enabled the 22 **sources** of social support to be mapped on a two-dimensional grid for both **types** of emotional and instrumental support so that the importance and satisfaction could be assessed. These attributes were then plotted on an IP graph and four quadrants were defined to assist in prioritizing and resourcing subsequent support interventions.

Thirdly, this research has made a **substantive** contribution by collating a body of literature around NZ medico-legal stress and identifying those interventions that may be beneficial. The participant ratings for suggestions of social support / interventions for medico-legal stress were collated and summarised in an occupational stress framework in order to identify HRM strategies to support NZ medical specialists going through a medico-legal process (Table 5.1)

5.6 Limitations of this Research

A significant limitation of this study's research design is that it is cross-sectional, not longitudinal or prospective. As such, the most trying medico-legal process is treated as a single event, with a similar need for social support throughout the process. Stress encounters have been shown to differ from one stage to the next (Carver & Scheier, 1994) and this study does not allow for the identification of the various stages in a medico-legal process. Therefore, this study can only demonstrate a correlation between the dependent and independent variables and cannot prove causality. However, use of the IES in this study has proven validity and reliability over time and should enable comparisons from this research to be made with future longitudinal, prospective studies on the different medico-legal stages.

Another significant limitation is the poor response to the questionnaire, only 10%. This is assumed to be largely as a result of the characteristics of the medical sector being surveyed and, also, the fact that the survey was electronically mailed to specialists by each Specialist College / Association. Access to NZ College / Association members and their addresses is available only with the permission of each College/Association. Unfortunately, only seven specialist Associations were prepared to support this research as there are, apparently, a number of other different surveys of specialists underway. The population sample for this study is 1107 specialists and this represents 39% of the total registered medical specialists in NZ. The response by 118 specialists, of which 56 had undergone a medico-legal process, closely matched the entire specialist population demographics. The sample population, therefore, was sufficient to make some statistical conclusions.

This research does not include the individual factors of a specialist's personal life and personality and how this may impact on the level of distress and social support required or accessed. It does not look at either the chronic level of work stress that may be present in the work situation, nor the factor of organisational climate / culture.

This was an exploratory study regarding medico-legal stress and social support with the aim of highlighting issues and guiding initial HR intervention strategies. In addition, it will recommend areas that require further research.

5.7 Recommendations for Further Research

This cross-sectional research confirms that NZ medico-legal processes are a potential stressor to the specialist involved. This study has explored the support strategies required to alleviate medico-legal stress and concludes that further short and long-term longitudinal research is needed on the impact of medico-legal processes, coping strategies and support requirements at each stage of the litigation process.

Until some quantitative figures, in terms of dollars, are placed on this issue and the subsequent quantifiable impact on the healthcare sector is available, it may be difficult to obtain or allocate funding for innovations at a national and organisational level. Society tends to view doctors as a privileged group and 'convincing organisations to invest in programmes to maintain and improve physicians' well-being' (Gerrity, 2001: 224) will require evidence that this will improve outcomes for patients.

This research has explored the impacts of medico-legal processes on the well-being of individual specialists. Further research now requires the application of health economics to, firstly, investigate the burden of medico-legal complaints and processes

on individual doctors, healthcare providers, funders, patients and society at large; and, secondly, to undertake a cost/benefit analysis of the outcomes of a medico-legal process as well as an evaluation of preventative and supportive measures that may be used to mitigate any adverse effects (Rigby & Litt, 2000). This research should include the 'hidden costs' of defensive medicine. In addition, the 'value' of a medical specialist to the NZ healthcare sector should be quantified, including the cost to the public health system when a specialist resigns or is on stress leave.

The effect of a medico-legal process on top of chronic workplace stress is unknown. Further research should be undertaken within the NZ DHBs on the convoluted relationship between the levels of work stress, organisational culture in a hospital, specialist workload and the level of adverse incidents and complaints. The results from this type of research could highlight primary prevention strategies for medico-legal stress in terms of adjusting workloads and improving organisational culture and communication while, at the same time, improving patient care.

5.8 Conclusion

In conclusion, this research has contributed to an understanding of the impacts of medico-legal processes on a NZ medical specialist, impacts that reach across the specialist's physical, emotional, professional and personal life. The research findings support the common themes of overseas' research, as stated in the literature review, that the medico-legal process can cause physical and emotional disequilibrium. In addition, a complaint and subsequent medico-legal process is seen as a real threat to a specialist's professional identity and reputation.

The results/benefits of this research are now summarized. Firstly, this research has quantified the distress effect of medico-legal processes by using the Impact of Event Scale. These research results found higher than predicted levels of distress and showed that specialists may be at risk of developing Post Traumatic Stress Disorder. This was regardless of whether or not the outcome was favourable or unfavourable. These findings enable the professional Colleges and DHBs to have a benchmark to measure how stressful the specialists find medico-legal processes and the perceived impact on the specialist's psychological and physical health. These organisations can now extrapolate this information in relation to the expected number of complaints in the future to assess the potential impact on specialists and the medical workforce. In addition, the DHBs will have to acknowledge that medico-legal processes are a potential 'hazard' that can cause 'serious harm'. This should result in a review of DHB

occupational health and safety procedures, including monitoring. It should compel HRM practitioners to pro-actively work with the other stakeholder agencies to support the well-being of the individual specialist and the organization.

Secondly, this research reveals the perceived level of ‘threat’ and ‘control’ the specialists feel they have during the medico-legal process and its outcomes. By understanding this, the DHBs and Colleges may be able to provide interventions to lessen the perceived threat and to improve perceived control over the situation, thereby lessening potential negative impacts. For example, interventions could include instrumental support such as improved understanding of the litigation process, improved personal communication skills, improved report writing resources and assistance. The Health and Disability Commissioner could develop more stringent criteria for investigating complaints. Any one of these interventions would be a big step forward in addressing the problem.

Thirdly, this research supports the overseas’ literature by showing the importance of spousal and collegial support in minimizing the impact of medico-legal processes. The professional Colleges / Associations are potentially important social networks in NZ that could assist specialists through medico-legal processes, both directly and indirectly. This could involve access to support groups, mentors and educational programmes / sessions at conferences as well as ensuring there is access to appropriate confidential counselling to lessen the potential negative impacts. The professional Colleges could also play an important role in providing ‘esteem’ and ‘network’ support.

Fourthly, this research allows DHBs and professional colleges to now identify the types and sources of social support that are appropriate. They can then facilitate access to these systems to assist specialists to deal with medico-legal stress. For example, DHBs could educate their staff and management regarding litigation stress and could provide administrative support and confidential access to private counsellors.

Tapper et al., (2004: 983) maintain that doctors:

Will have greater confidence in moving from the past culture of defensiveness towards disclosure – if they can have confidence in a supportive organisational and political environment, which values adverse events and errors as important learning experiences.

Appropriate human resource management strategies to support medical specialists undergoing medico-legal processes, both nationally and on an organisational basis, should go a long way to changing the current culture of disclosure while still valuing the

medical workforce. Specialists cannot be expected to deliver high quality healthcare if they are personally distressed as a result of any workplace stressor.

Finally, this research reveals a real need for national leadership and a planned, coordinated inter-agency approach to manage the many stakeholders involved in specialist medico-legal processes. This would need to include coordinated management of any future research and resultant supportive interventions. The framework devised from this research could be used to pro-actively reduce and manage the impact of medico-legal processes nationally, at all levels, thereby improving the overall health and well-being of specialist medical practitioners in NZ.

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APPENDIX 1 – RESEARCH QUESTIONNAIRE

Research Study: ‘Human Resource Management Strategies Needed to Support New Zealand Medical Specialists Undergoing a Complaints/Disciplinary Process or Coroner’s Inquest’

Dear Specialist

This research is being carried out for my thesis towards a Master of Commerce (Honours). I am conducting this study as there has been no published research that has quantified the impact of complaints/disciplinary processes and coroner’s inquest in relation to the symptoms of post-traumatic stress for New Zealand medical specialists. There is also no research in New Zealand that identifies the support that is available/accessed for specialists during medico-legal processes, or their perceptions regarding the importance/satisfaction of the available support.

The attached questionnaire is to obtain *your perceptions* of the distress of complaints/disciplinary processes or of a coroner’s inquest, as well as how important/satisfied you were with the support you received during the process. **It should take no more than 25-30 minutes to read and complete.**

The conclusions and any recommendations from this research will be made available, on request, to:

- Your professional associations so that they may improve their service to you as members.
- District Health Boards/Private Hospitals so that they can fulfil their obligations regarding workplace stress under the Health and Safety in Employment Amendment Act 2002.

The completion of this questionnaire may bring back uncomfortable feelings or unsettling memories regarding previous/current medico-legal processes. If this is the case, I suggest that you seek some assistance to explore these feelings.

If you do not want to participate in this research, please return the uncompleted questionnaire in the envelope provided. A completed and returned questionnaire will indicate your consent to be anonymously included in this study. This questionnaire **cannot** be traced to any individual and the raw data will be strictly confidential to myself and my two supervisors at Charles Sturt - Prof. Alan Fish and Dr Pamela Mathews.

Thank you so much for your participation – your valuable time is appreciated. If you have any questions, please do not hesitate to contact either myself (07 5448265) or Prof. Fish (+ 61 2 69332527).

Yours faithfully

Melanie Moorcroft (Masters Student, Faculty of Commerce)

Ph / Fax: +64 7 544 8265 Email: business.strategies@wave.co.nz

Return by 18 April 2006 to: PO Box 7011 Maungatapu, Tauranga.

Note: Charles Sturt University’s Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through:

The Executive Officer
Ethics in Human Research Committee
Academic Secretariat, Charles Sturt University
Private Mail Bag 29
Bathurst NSW 2795

Tel: +61 (02) 63384628 Fax: +61 (02) 63338 4194

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

SECTION 1 EXPERIENCE OF MEDICO-LEGAL PROCESSES

In the last 10 years have you had a complaint / medical misadventure claim made against you to the Accident Compensation Corporation (ACC), the Health & Disability Commissioner (HDC), Medical Council or appeared in a Coroner's Inquest?

YES NO

If you answered NO please return this questionnaire to the address on the last page.

IF YOU ANSWERED YES PLEASE COMPLETE THE REMAINING QUESTIONS

Please tick the appropriate boxes

In which of the following medico-legal processes have you been involved?

Accident Compensation Corporation (ACC)	<input type="checkbox"/>	Medical / Health Practitioners Disciplinary Tribunal	<input type="checkbox"/>
Health & Disability Commissioner (HDC)	<input type="checkbox"/>	Coroner's Court	<input type="checkbox"/>

What was the **longest time** taken, from initial notification until resolution, for any of the above medico-legal processes?

< 12 months	<input type="checkbox"/>	3 years - 4 years	<input type="checkbox"/>
1 year - 2 years	<input type="checkbox"/>	> 4 years	<input type="checkbox"/>
2 years - 3 years	<input type="checkbox"/>		

What medico-legal process did you find the **most trying / difficult**?

Accident Compensation Corporation (ACC)	<input type="checkbox"/>	Medical / Health Practitioners Disciplinary Tribunal	<input type="checkbox"/>
Health & Disability Commissioner (HDC)	<input type="checkbox"/>	Coroner's Court	<input type="checkbox"/>

SECTION 2 DEMOGRAPHICS

Categorise your speciality as either Medical or Surgical.

Medical (For example: Paediatrics) Surgical (For example: Orthopaedics, Anaesthetics)

Do you practice your speciality in:

Private practice only	<input type="checkbox"/>	Mix of private and public	<input type="checkbox"/>
Full-time public employment	<input type="checkbox"/>	Other eg Retired, not practicing	<input type="checkbox"/>

What is your gender?

Male Female

To which ethnic group do you belong?

New Zealander NZ Maori Other

How many years have you been qualified as a specialist?

0 - 5 years	<input type="checkbox"/>	11 - 15 years	<input type="checkbox"/>	> 20 years	<input type="checkbox"/>
6-10 years	<input type="checkbox"/>	16 - 20 years	<input type="checkbox"/>		

What is your age group?

25 - 29 years	<input type="checkbox"/>	40 - 49 years	<input type="checkbox"/>	> 60 years	<input type="checkbox"/>
30 - 39 years	<input type="checkbox"/>	50 - 59 years	<input type="checkbox"/>		

10, Where did you complete your specialist training?

New Zealand Overseas

SECTION 3 MOST TRYING / DIFFICULT MEDICO-LEGAL SITUATION

Please answer the following questions using the medico-legal situation that you found the most trying /difficult, (referred to hereafter as the M-L situation).

11. Did this M-L situation involve the death of a patient?

YES NO

12. Please indicate the current status of this M-L situation:

In progress Resolved

13. If you answered 'resolved' in question 12, please indicate your perception of the final outcome:

Favourable Unfavourable

14. If you answered 'resolved' in Question 12, please indicate the length of time from initial notification until resolution.

< 12 months 3 years - 4 years
 1 year - 2 years > 4 years
 2 years – 3 years

15. Did this M-L situation cause you to take:

[a] Stress leave? YES NO How many days? _____
 [b] Sick Leave? YES NO How many days? _____
 [c] A change in work scope/load? YES NO

If you answered YES to [c], please elaborate on the work changes:

16. For this M-L situation, did you discuss with your employer / hospital management the issue of possible stress and the impact that this may have on you professionally and personally?

YES NO

17. If you answered NO to the previous question, please indicate the reason(s)?

[a] Did not feel stressed by the process
 [b] Concerned about confidentiality
 [c] Could be disadvantageous to my career
 [d] May be seen as a sign of weakness
 [e] May affect my financial position
 [f] Could be disadvantageous to obtaining insurance cover
 [g] Other reasons: (please list below)

18. With the most trying/difficult M-L situation in mind, to what extent was this a perceived threat to your professional identity and reputation?

No threat	Minor threat	Moderate threat	Major threat	Extreme threat
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. With the most trying/difficult M-L situation in mind, to what extent did you feel it was possible to control / influence the outcome of the process?

Definitely no control	Some control	Fairly controllable	Mainly controllable	Definitely controllable
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION 4 EMOTIONAL AND INSTRUMENTAL SUPPORT DURING THE MOST TRYING / DIFFICULT MEDICO LEGAL SITUATION

EMOTIONAL SUPPORT													
20. During the process, how <i>important</i> to you was the emotional support from the following? <i>Please tick the appropriate box</i>						Emotional support easy to talk to willingness to listen to you caring & empathetic helped your self-esteem	21. During this process, how <i>satisfied</i> were you with the emotional support from the following? <i>Please tick the appropriate box</i>						
Extremely important	Very important	Important	Slightly important	Not at all important	N/A	EMOTIONAL SUPPORT FROM	Extremely satisfied	Very satisfied	Satisfied	Slightly satisfied	Not at all satisfied	Not accessed	Not available
						Spouse / partner							
						Extended family							
						Close friends							
						Immediate colleagues (similar speciality)							
						Other specialist colleagues							
						Colleagues who have been through a similar process							
						Colleagues in private practice							
						Immediate Hospital Management (HOD)							
						Hospital Senior Management							
						Hospital HR Managers							
						Hospital Counselling Service							
						Private hospital management							
						Other staff (eg nurses)							
						Specialist Association / College							
						Doctors' Health Advisory Service (DHAS)							
						General Practitioner							
						Private Counsellor/Psychologist							
						Legal Counsel							
						Religious Leader (eg Minister, Priest, Rabbi)							
						Union representative							
						Insurance provider							
						Other:							

INSTRUMENTAL SUPPORT														
22. During the process, how <i>important</i> to you was the instrumental support from the following? <i>Please tick the appropriate box</i>						Instrumental support made things easier for you could be relied upon gave information & advice	23. During this process, how <i>satisfied</i> were you with the instrumental support from the following? <i>Please tick the appropriate box</i>							
Extremely important	Very important	Important	Slightly important	Not at all important	N/A	INSTRUMENTAL SUPPORT FROM	Extremely satisfied	Very satisfied	Satisfied	Slightly satisfied	Not at all satisfied	Not accessed	Not Avail-able	
						Spouse / partner								
						Extended family								
						Close friends								
						Immediate colleagues (similar speciality)								
						Other specialist colleagues								
						Colleagues who have been through a similar process								
						Colleagues in private practice								
						Immediate Hospital Management (HOD)								
						Hospital Senior Management								
						Hospital HR Managers								
						Hospital Counselling Service								
						Private hospital management								
						Other staff (eg nurses)								
						Specialist Association / College								
						Doctors' Health Advisory Service (DHAS)								
						General Practitioner								
						Private Counsellor/Psychologist								
						Legal Counsel								
						Religious Leader (eg Minister, Priest, Rabbi)								
						Union representative								
						Insurance provider								
						Other:								

Additional comments you would like to make on support during the M-L process :

24. I believe that my experience with this M-L situation has caused or exacerbated a physical condition:

Strongly agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please explain:

25. I believe that my experience with this M-L situation has caused or exacerbated an emotional / psychological condition:

Strongly agree	Agree	Neither Agree or Disagree	Disagree	Strongly disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please explain:

26. If you had a spouse / partner during the time of this M-L situation, what was the impact on your relationship?

Very detrimental	Detrimental	No impact	Constructive	Very constructive
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please explain:

27. If you had a spouse / partner during the time of this M-L situation, did any organization offer emotional / instrumental support to them?

YES NO

28. If you answered YES, what was the support offered to your spouse / partner and from whom?

Please explain:

SECTION 5 IMPACT OF EVENT SCALE (Horowitz et al. 1979)

Below is a list of comments made by people after stressful life events. Using the following scale, please indicate (with a tick) which of these comments was true for you during **the most trying / difficult M-L situation**.

	Not at all	Rarely	Sometimes	Often
I thought about it when I didn't mean to.				
I avoided letting myself get upset when I thought about it or was reminded of it.				
I tried to remove it from memory.				
I had trouble falling asleep or staying asleep because of pictures in my mind or thoughts about it that came into my mind.				
I had waves of strong feelings about it.				
I had dreams about it.				
I stayed away from reminders of it.				
I felt as if it hadn't happened or wasn't real				
I tried not to talk about it.				
Pictures about it popped into my mind.				
Other things kept making me think about it.				
I was aware that I still had a lot of feelings about it but I didn't deal with them.				
I tried not to think about it.				
Any reminder brought back feelings about it.				
My feelings about it were kind of numb.				

What did you do to deal with your **emotional/physical** reactions during this M-L situation?

What did you do to **actively** deal with this most trying/difficult M-L situation?

SECTION 6 SUGGESTIONS FOR SUPPORT

In your opinion, to what extent would the following support be useful to specialists undergoing a medico-legal process?

	Extremely useful	Very Useful	Useful	Slightly useful	Not at all useful
Access to hospital counselling service					
Access to an independent psychologist					
Support of a nominated hospital peer / mentor					
Access to Doctors Health Advisory Service (DHAS)					
Support networks arranged by specialist College / Association					
Information on emotional reactions to litigation (eg video, manual)					
Information on how to support colleagues					
Stress risk assessment & management programme					
Coaching on coping / resiliency skills					
Coaching on communication					
Coaching on advocacy process					
Information / coaching from legal counsel to prepare for proceedings					
Resources & time from employer for report writing					
Monitoring of workloads by employer prior to 'hearings / proceedings'					
Employer ensuring staff rosters (house surgeons, registrars, nurses) prior to proceedings are appropriate					
Train & educate hospital management to understand / support specialists during the process					
Allocated education time at conferences regarding medico-legal processes					
List of national support people / resources					
Information for spouses / partners					
Support networks for spouses / partners					

What other support do you think would be useful?

If you would like to make any further comments please use the back page.

Please return this completed questionnaire by **18 April 2006** to:
 Melanie Moorcroft, PO Box 7011 Maungatapu, Tauranga

Thank you so much for your participation – your valuable time is appreciated!