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Factors that Influence General Practitioner Diagnostic Decision-Making and a Comparison with Other Stakeholders

By

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A thesis submitted in partial fulfilment of the requirements for the degree of

Doctor of Philosophy

Department of Medicine
Faculty of Medical and Health Sciences
University of Auckland
2006
Abstract

Background

An analysis of Accident Compensation Corporation claims shows “inconsistent and inadequate diagnoses” by health care providers. Diagnostic performance is a result of two independent parameters, namely discrimination (accuracy) and decision (bias). Bias is related to the medical practitioner’s perception of the costs and benefits of making one choice over another. Bias may be statistical, sociological, political, biological or psychological in nature. This study investigated the factors that potentially bias diagnostic decision-making by general practitioners and the subjective value placed on these factors by different stakeholder groups in society.

Methods

Phase 1 of the study used focus groups of standard setters for general practitioners to identify factors that influenced diagnostic decision-making in general practice. These factors were evaluated for importance and desirability using standard Delphi methodology and Rasch analysis. Phase 2 of the study evaluated the importance and desirability of the factors identified in Phase 1 for influencing decision making as judged by significant health care stakeholder groups in New Zealand. Participant response was via questionnaire analysed by the Rasch Model.

Results

Thirty-nine factors were identified that potentially biased diagnostic decision-making in general practice. The measurements of, particularly, desirability have high
reproducibility across stakeholder groups and high positive loading for the first principal component consistent with construct validity. No stakeholder group identifies factors consistent with Bayes’ theorem of diagnostic reasoning as being the only desirable influence on diagnosis. There is considerable categorical homogeneity between the stakeholder groups GP, GPACC, P, RACCSLT and RACCSST.

Conclusions

The findings of this and other studies challenge the current biomedical paradigm, indicating a less than Bayesian approach to medical decision-making. A social constructivist model, incorporating non-Bayesian factors into the definition of “illness” versus “disease”, may be more representative of reality. A social constructivist model of medicine is incompatible with the current legislative and administrative framework within which the Accident Compensation Corporation and a number of other medical organisations operate.
Dedication

To Hugh, Freyia (born 2002), Lachlan (born 2003),
and “Aunty” Lola

With much love
Acknowledgements

The following individuals and groups are acknowledged for their assistance in the conduct of this work:

**Professor John Irwin** for his simply outstanding supervision and encouragement since the first day he introduced me to the mathematical ‘horror’ of detection theory.

**Professor Des Gorman** for his continued mentoring and support in my pursuit of integrating the disciplines of occupational medicine and human factors.

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**Staff of the Occupational Medicine Unit** in particular Anne Culpan, Debbie Beaumont and Sam Leibert for their collegial good will, practical assistance and equanimity when listening to my enthusiastic outbursts or despondent moaning.
Table of Contents

Consent form .............................................................................................................................. ii

Abstract ........................................................................................................................................ iii

Dedication ........................................................................................................................................ v

Acknowledgements ................................................................................................................... vi

Table of Contents ..................................................................................................................... vii

List of Tables ................................................................................................................................ xii

List of Figures ........................................................................................................................... xiv

List of Abbreviations ............................................................................................................... xvii

1. Introduction .......................................................................................................................... 1
  1.1 Diagnostic Performance ...................................................................................................... 3
  1.2 Factors that may bias Doctors ....................................................................................... 8
  1.2.1 Clinical Diagnosis ...................................................................................................... 12
  1.2.2 Patient History .......................................................................................................... 14
  1.2.3 Examination Findings .............................................................................................. 15
  1.2.4 Results of Investigations .......................................................................................... 20
  1.2.5 Patient Advocacy ..................................................................................................... 22
  1.2.6 Legislative Requirements ......................................................................................... 25
  1.2.7 Administrative Requirements .................................................................................. 27
  1.2.8 Evidence-based Medicine (EBM) ........................................................................... 28
  1.2.9 The GP’s Personal Clinical Experience .................................................................... 30
  1.2.10 The Characteristics of the GP ............................................................................... 32
  1.2.11 Medico-legal Issues ............................................................................................... 35
  1.2.12 The Health and Disability Commissioner .............................................................. 37
  1.2.13 Implications of the Diagnosis for the Wider Community ...................................... 39
  1.2.14 The Clinical Setting ............................................................................................... 40
  1.2.15 Time Available for the Consultation ...................................................................... 42
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.16 External Feedback from Medical Sources</td>
<td>44</td>
</tr>
<tr>
<td>1.2.17 Potential Ramifications of Diagnosis</td>
<td>45</td>
</tr>
<tr>
<td>1.2.18 Marketing/Media</td>
<td>47</td>
</tr>
<tr>
<td>1.2.19 Personal Circumstances of the Patient</td>
<td>49</td>
</tr>
<tr>
<td>1.2.20 Patient Characteristics</td>
<td>50</td>
</tr>
<tr>
<td>1.2.21 Patient Expectations</td>
<td>53</td>
</tr>
<tr>
<td>1.2.22 Need to Justify a Course of Action</td>
<td>55</td>
</tr>
<tr>
<td>1.2.23 Patient Pressure on Doctors</td>
<td>56</td>
</tr>
<tr>
<td>1.2.24 Desire to please the Patient</td>
<td>60</td>
</tr>
<tr>
<td>1.2.25 GP’s Perception of the State of the NHS</td>
<td>60</td>
</tr>
<tr>
<td>1.2.26 Technological Tools</td>
<td>61</td>
</tr>
<tr>
<td>1.2.27 Knowledge of Local Conditions</td>
<td>65</td>
</tr>
<tr>
<td>1.2.28 Funder of Consultation</td>
<td>67</td>
</tr>
<tr>
<td>1.2.29 Business Considerations</td>
<td>68</td>
</tr>
<tr>
<td>1.2.30 External Incentives</td>
<td>70</td>
</tr>
<tr>
<td>1.2.31 Expectations of Fellow Medical Professionals</td>
<td>73</td>
</tr>
<tr>
<td>1.2.32 GP’s Perception -What External Health Professionals Might Think</td>
<td>75</td>
</tr>
<tr>
<td>1.2.33 Closeness of GP/Patient Relationship</td>
<td>76</td>
</tr>
<tr>
<td>1.2.34 Diagnostic Codes</td>
<td>77</td>
</tr>
<tr>
<td>1.2.35 Patient Advocacy Groups</td>
<td>79</td>
</tr>
<tr>
<td>1.2.36 Need to Achieve an Outcome</td>
<td>81</td>
</tr>
<tr>
<td>1.2.37 Fear of Uncertainty</td>
<td>83</td>
</tr>
<tr>
<td>1.2.38 Context in which the Diagnosis is Made</td>
<td>85</td>
</tr>
<tr>
<td>1.2.39 Whether or not Treatment is Available for the Diagnosed Condition</td>
<td>87</td>
</tr>
<tr>
<td>1.3 The Way Forwards</td>
<td>88</td>
</tr>
<tr>
<td>2. Defining the Factors that Influence General Practitioner Diagnostic Decision-Making (Phase 1)</td>
<td>90</td>
</tr>
<tr>
<td>2.1 Background</td>
<td>90</td>
</tr>
<tr>
<td>2.1.1 Focus Groups</td>
<td>90</td>
</tr>
<tr>
<td>2.1.2 The Delphi Method</td>
<td>91</td>
</tr>
<tr>
<td>2.1.3 Rasch Analysis</td>
<td>93</td>
</tr>
<tr>
<td>2.2 Methods</td>
<td>95</td>
</tr>
</tbody>
</table>
2.2.1 Objectives ........................................................................................................ 95
2.2.2 Ethics .............................................................................................................. 95
2.2.3 Participants ..................................................................................................... 95
2.2.4 Procedure ...................................................................................................... 97
   2.2.4.1 Focus Group Meetings ....................................................................... 97
   2.2.4.2 Delphi Round 1 ................................................................................. 98
   2.2.4.3 Delphi Round 2 ................................................................................. 99
2.3 General Analysis ............................................................................................. 100
2.4 Results ............................................................................................................. 101
   2.4.1 Standard Delphi Methodology Analysis ............................................. 104
      2.4.1.1 Stability of Response ................................................................ 104
      2.4.1.2 Consensus ................................................................................... 108
   2.4.2 Rasch Analysis ................................................................................... 130
      2.4.2.1 Dimensionality of the Questionnaire ........................................ 130
      2.4.2.2 Spacing of the Ratings ............................................................... 130
      2.4.2.3 Location of the Factors on the Attitude Continuum ............... 132
      2.4.2.4 Ramifications of Diagnosis .......................................................... 136
2.5 Summary of findings ...................................................................................... 137
2.6 Discussion and Implications ............................................................................ 137
   2.6.1 Response Rate ................................................................................... 140
   2.6.2 Number of Delphi Rounds ........................................................................ 141

3. Assessing Subjective Ratings by Stakeholder Groups of Factors that
Influence General Practitioner Diagnostic Decision-making (Phase 2) .......... 143

3.1 Objective ......................................................................................................... 143
3.2 Methods ......................................................................................................... 143
   3.2.1 Ethics ................................................................................................... 143
   3.2.2 Participants ........................................................................................... 143
      3.2.2.1 Ministerial Advisory Panel on Work-Related Gradual Process,
            Disease or Infection (MAPWRGP) .................................................... 144
      3.2.2.2 ACC Senior Management Team (ACCSMT) .............................. 145
      3.2.2.3 ACC Case Managers (ACCCCM) ............................................... 145
3.2.2.4 ACC Medical Advisors (ACCMA) ............................................. 146
3.2.2.5 General Practitioners (GP) .......................................................... 146
3.2.2.6 Recipients of ACC Services (RACCS) ..................................... 147
3.2.2.7 Dispute Resolution Services Limited (DRSL) Reviewers .......... 148
3.2.2.8 Occupational Medicine Physicians (OCCMED) ....................... 148
3.2.2.9 Medical Graduates from The University of Auckland with a postgraduate qualification in Occupational Medicine (DIPOCCMED) ................................................................................. 149
3.2.2.10 Patients (P) ................................................................................. 149
3.2.2.11 Ministry of Health (MOH) ........................................................... 150
3.2.2.12 Members of Parliament (MP) .................................................... 151
3.2.2.13 GP Standard Setters (GPSS) ...................................................... 151
3.2.3 Questionnaires .............................................................................. 151
3.2.4 Return ............................................................................................ 152
3.2.5 Data Entry ....................................................................................... 152
3.2.6 General Analysis ............................................................................. 153

3.3 Results .................................................................................................. 154
3.3.1 Participant Response Rate ............................................................... 154
3.3.2 Rasch Analysis ................................................................................ 155
  3.3.2.1 Spread ........................................................................................ 155
  3.3.2.2 Item reliability index ................................................................... 157
  3.3.2.3 Principal Components Analysis ................................................... 157
  3.3.2.4 Logit values ................................................................................ 159
  3.3.2.5 Congruence among Groups ......................................................... 171
    (i) Importance ................................................................................... 171
    (ii) Desirability .................................................................................. 173
3.3.3 Analysis of desirability and importance ............................................. 173
3.3.4 Model II Regression ........................................................................... 192
3.3.5 ANOVA .......................................................................................... 194
  3.3.5.1 GP and GPACC ........................................................................... 194
  3.3.5.2 P and RACCSLT and RACCSST ................................................ 201
  3.3.5.3 GPACC and GP and P and RACCSLT and RACCSST .......... 206

3.4 Discussion and implications ................................................................. 213
List of Tables

1. Introduction.................................................................................................................. 1

Table 1.1  Relationship of Antibiotic Prescribing by 593 Doctors to Variations in Psychological/Social History in Patients with Matched Physical Symptoms and Signs of Respiratory Illness ........................................... 11

2. Defining the Factors that influence General Practitioner Diagnostic Decision-Making (Phase 1).................................................................................................................................................. 90

Table 2.1 Summed Mean Ratings of Importance, Stability, Degree of Stability, Consensus and Strength of Consensus ........................................................................................................ 106

Table 2.2. Summed Mean Ratings of Desirability, Stability, Degree of Stability, Consensus and Strength of Consensus ........................................................................................................ 107

Table 2.3 Fifty per cent cumulative probabilities for ratings of importance .......... 131

Table 2.4 Fifty per cent cumulative probabilities for ratings of desirability .......... 131

3. Assessing subjective ratings by stakeholder groups of factors that influence General Practitioner diagnostic decision-making (Phase 2) .............................. 141

Table 3.1 Significant stakeholder groups in the provision of New Zealand health care ..................................................................................................... 144

Table 3.2 Criteria used to Exclude Potential Participants from the Pool.................. 147

Table 3.3 Participant Response Rate for Surveyed Stakeholder Groups ............... 154

Table 3.4 Minimum, maximum and range of importance logit values for all stakeholder groups .................................................................................................... 155

Table 3.5 Minimum, maximum and range of desirability logit values for all stakeholder groups .................................................................................................... 156

Table 3.6 Item reliability index ...................................................................................... 157

Table 3.7 Principal Components Analysis - Importance ........................................... 158

Table 3.8 Principal Components Analysis - Desirability .......................................... 159

Table 3.9 Minimum and Maximum Mismatch Scores for Each Stakeholder Group ............................................................ 175
Table 3.10 Identification of factors represented by numerals in Importance vs Desirability graphs

Table 3.11 ANOVA Results between GP and GPACC groups - Importance

Table 3.12 ANOVA Results between GP and GPACC groups – Desirability

Table 3.13 ANOVA Results between Patients (P), RACCSLT and RACCSST – Importance

Table 3.14 ANOVA Results between Patients (P), RACCSLT and RACCSST – Desirability

Table 3.15 ANOVA Results between Patients (P), RACCSLT and RACCSST, GP and GPACC – Importance

Table 3.16 ANOVA Results between Patients (P), RACCSLT and RACCSST, GP and GPACC – Desirability
List of Figures

Figures 2.1-2.8  Histograms of important influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2).  . 110

Figures 2.9-2.16  Histograms of important influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2).  ................................................................. 111

Figures 2.17-2.24  Histograms of important influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2).  ................................................................. 112

Figures 2.25-2.32  Histograms of important influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2).  ................................................................. 113

Figures 2.33-2.40  Histograms of important influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2).  ................................................................. 114

Figures 2.41-2.48  Histograms of important influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2).  ................................................................. 115

Figures 2.49-2.56  Histograms of important influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2).  ................................................................. 116

Figures 2.57-2.64  Histograms of important influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2).  ................................................................. 117

Figures 2.65-2.72  Histograms of important influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2).  ................................................................. 118

Figures 2.73-2.78  Histograms of important influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2).  ................................................................. 119

Figures 2.79-2.86  Histograms of desirability influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2).  ................................................................. 120

Figures 2.87-2.94  Histograms of desirability influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2).  ................................................................. 121
Figures 2.95-2.102 Histograms of desirability influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2). ................................................................. 122

Figures 2.103-2.110 Histograms of desirability influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2). ................................................................. 123

Figures 2.111-2.118 Histograms of desirability influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2). ................................................................. 124

Figures 2.119-2.126 Histograms of desirability influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2). ................................................................. 125

Figures 2.127-2.134 Histograms of desirability influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2). ................................................................. 126

Figures 2.135-2.142 Histograms of desirability influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2). ................................................................. 127

Figures 2.143-2.150 Histograms of desirability influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2). ................................................................. 128

Figures 2.151-2.156 Histograms of desirability influencing factors (factor indicated in graph title) for Delphi Round 1 (R1) and Delphi Round 2 (R2). ................................................................. 129

Figure 2.157 GPSS Map of Importance Factors ................................................................. 133

Figure 2.158 GPSS Map of Desirability Factors ................................................................. 134

Plots of logit values of desirability against importance for all thirty-nine influencing factors for each stakeholder group (Fig 3.1 - 3.15)

Figure 3.1 Group: ACCMA ................................................................. 177

Figure 3.2 Group: ACC SMT ................................................................. 178

Figure 3.3 Group: CM ................................................................. 179

Figure 3.4 Group: RACCSLT ................................................................. 180
Figure 3.5  Group: RACCSST ................................................................. 181
Figure 3.6  Group: DRSL................................................................. 182
Figure 3.7  Group: GPSS................................................................. 183
Figure 3.8  Group: DIPPOCCMED ............................................... 184
Figure 3.9  Group: GP ................................................................. 185
Figure 3.10  Group: GPACC ............................................................ 186
Figure 3.11  Group: MP ................................................................. 187
Figure 3.12  Group: MAPWRGPI .................................................... 188
Figure 3.13  Group: MOH ............................................................... 189
Figure 3.14  Group: OCCMED ........................................................ 190
Figure 3.15  Group: P ................................................................. 191

Figures 3.16  Model II Regressions of Groups P, RACCSLT and DRSL............ 193
# List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC</td>
<td>Accident Compensation Corporation</td>
</tr>
<tr>
<td>ACCMA</td>
<td>ACC Medical Advisors</td>
</tr>
<tr>
<td>ACCSMT</td>
<td>ACC Senior Management Team</td>
</tr>
<tr>
<td>ALS</td>
<td>Amyotrophic Lateral Sclerosis</td>
</tr>
<tr>
<td>CI</td>
<td>Confidence interval</td>
</tr>
<tr>
<td>CM</td>
<td>Case Manager</td>
</tr>
<tr>
<td>DIPOCCMED</td>
<td>Medical Practitioners who have graduated with a postgraduate Diploma of Occupational Medicine, University of Auckland</td>
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<tr>
<td>DRSL</td>
<td>Dispute Resolution Services Limited</td>
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<tr>
<td>Drs</td>
<td>Doctors</td>
</tr>
<tr>
<td>DSM</td>
<td>Diagnostic and Statistical Manual</td>
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<tr>
<td>DTC</td>
<td>Direct to consumer marketing</td>
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<tr>
<td>EBM</td>
<td>Evidence-Based Medicine</td>
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<tr>
<td>FHSAA</td>
<td>(UK) Family Health Services Appeal Authority</td>
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<tr>
<td>GP</td>
<td>General Practitioner</td>
</tr>
<tr>
<td>GPACC</td>
<td>General Practitioner -ACC</td>
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<tr>
<td>GPSS</td>
<td>General Practitioner – Standard Setters</td>
</tr>
<tr>
<td>GROP</td>
<td>Getting rid of Patients</td>
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<tr>
<td>HDC</td>
<td>Health and Disability Commissioner</td>
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<tr>
<td>HMO</td>
<td>Health Maintenance Organisation</td>
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<tr>
<td>IPA</td>
<td>Independent Practitioners Association</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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</tr>
<tr>
<td>JAMA</td>
<td>Journal of the American Medical Association</td>
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<tr>
<td>JNC V</td>
<td>The 5th Joint National Committee</td>
</tr>
<tr>
<td>MAPWGPI</td>
<td>Ministerial Advisory Panel on Work-related Gradual Process Disease or Infection</td>
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<td>Ministry of Health</td>
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<tr>
<td>MP</td>
<td>Members Health Committee, NZ House of Representatives</td>
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<td>NHCS</td>
<td>National Health Care System</td>
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<tr>
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<td>New Zealand</td>
</tr>
<tr>
<td>OCCMED</td>
<td>Occupational Medicine Physicians</td>
</tr>
<tr>
<td>OR</td>
<td>Odds ratio</td>
</tr>
<tr>
<td>P</td>
<td>Patient</td>
</tr>
<tr>
<td>RACCSLT</td>
<td>Recipients of ACC Services – Long term</td>
</tr>
<tr>
<td>RACSST</td>
<td>Recipients of ACC Services – Short term</td>
</tr>
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<td>SDT</td>
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<td>United Kingdom</td>
</tr>
</tbody>
</table>