

A PHENOMENOLOGICAL STUDY OF EMERGENCY NURSING:
AN INTERPRETIVE APPROACH TO IDENTIFYING
AND DESCRIBING CLINICAL PRACTICE

by

Beth Brunsdon-Clark

A Thesis
submitted to the
Faculty of Graduate Studies
in partial fulfillment of the
requirements for the degree of

MASTER OF NURSING

School of Nursing
University of Manitoba
Winnipeg, Manitoba

(c) June, 1993



National Library
of Canada

Acquisitions and
Bibliographic Services Branch

395 Wellington Street
Ottawa, Ontario
K1A 0N4

Bibliothèque nationale
du Canada

Direction des acquisitions et
des services bibliographiques

395, rue Wellington
Ottawa (Ontario)
K1A 0N4

Your file *Votre référence*

Our file *Notre référence*

The author has granted an irrevocable non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of his/her thesis by any means and in any form or format, making this thesis available to interested persons.

L'auteur a accordé une licence irrévocable et non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de sa thèse de quelque manière et sous quelque forme que ce soit pour mettre des exemplaires de cette thèse à la disposition des personnes intéressées.

The author retains ownership of the copyright in his/her thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without his/her permission.

L'auteur conserve la propriété du droit d'auteur qui protège sa thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

ISBN 0-315-86111-8

Canada

Name _____

Dissertation Abstracts International is arranged by broad, general subject categories. Please select the one subject which most nearly describes the content of your dissertation. Enter the corresponding four-digit code in the spaces provided.

Nursing

SUBJECT TERM

0569 UMI
SUBJECT CODE

Subject Categories

THE HUMANITIES AND SOCIAL SCIENCES

COMMUNICATIONS AND THE ARTS

Architecture	0729
Art History	0377
Cinema	0900
Dance	0378
Fine Arts	0357
Information Science	0723
Journalism	0391
Library Science	0399
Mass Communications	0708
Music	0413
Speech Communication	0459
Theater	0465

EDUCATION

General	0515
Administration	0514
Adult and Continuing	0516
Agricultural	0517
Art	0273
Bilingual and Multicultural	0282
Business	0688
Community College	0275
Curriculum and Instruction	0727
Early Childhood	0518
Elementary	0524
Finance	0277
Guidance and Counseling	0519
Health	0680
Higher	0745
History of	0520
Home Economics	0278
Industrial	0521
Language and Literature	0279
Mathematics	0280
Music	0522
Philosophy of	0998
Physical	0523

Psychology	0525
Reading	0535
Religious	0527
Sciences	0714
Secondary	0533
Social Sciences	0534
Sociology of	0340
Special	0529
Teacher Training	0530
Technology	0710
Tests and Measurements	0288
Vocational	0747

LANGUAGE, LITERATURE AND LINGUISTICS

Language	
General	0679
Ancient	0289
Linguistics	0290
Modern	0291
Literature	
General	0401
Classical	0294
Comparative	0295
Medieval	0297
Modern	0298
African	0316
American	0591
Asian	0305
Canadian (English)	0352
Canadian (French)	0355
English	0593
Germanic	0311
Latin American	0312
Middle Eastern	0315
Romance	0313
Slavic and East European	0314

PHILOSOPHY, RELIGION AND THEOLOGY

Philosophy	0422
Religion	
General	0318
Biblical Studies	0321
Clergy	0319
History of	0320
Philosophy of	0322
Theology	0469

SOCIAL SCIENCES

American Studies	0323
Anthropology	
Archaeology	0324
Cultural	0326
Physical	0327
Business Administration	
General	0310
Accounting	0272
Banking	0770
Management	0454
Marketing	0338
Canadian Studies	0385
Economics	
General	0501
Agricultural	0503
Commerce-Business	0505
Finance	0508
History	0509
Labor	0510
Theory	0511
Folklore	0358
Geography	0366
Gerontology	0351
History	
General	0578

Ancient	0579
Medieval	0581
Modern	0582
Black	0328
African	0331
Asia, Australia and Oceania	0332
Canadian	0334
European	0335
Latin American	0336
Middle Eastern	0333
United States	0337
History of Science	0585
Law	0398
Political Science	
General	0615
International Law and Relations	0616
Public Administration	0617
Recreation	0814
Social Work	0452
Sociology	
General	0626
Criminology and Penology	0627
Demography	0938
Ethnic and Racial Studies	0631
Individual and Family Studies	0628
Industrial and Labor Relations	0629
Public and Social Welfare	0630
Social Structure and Development	0700
Theory and Methods	0344
Transportation	0709
Urban and Regional Planning	0999
Women's Studies	0453

THE SCIENCES AND ENGINEERING

BIOLOGICAL SCIENCES

Agriculture	
General	0473
Agronomy	0285
Animal Culture and Nutrition	0475
Animal Pathology	0476
Food Science and Technology	0359
Forestry and Wildlife	0478
Plant Culture	0479
Plant Pathology	0480
Plant Physiology	0817
Range Management	0777
Wood Technology	0746
Biology	
General	0306
Anatomy	0287
Biostatistics	0308
Botany	0309
Cell	0379
Ecology	0329
Entomology	0353
Genetics	0369
Limnology	0793
Microbiology	0410
Molecular	0307
Neuroscience	0317
Oceanography	0416
Physiology	0433
Radiation	0821
Veterinary Science	0778
Zoology	0472
Biophysics	
General	0786
Medical	0760

Geodesy	0370
Geology	0372
Geophysics	0373
Hydrology	0388
Mineralogy	0411
Paleobotany	0345
Paleoecology	0426
Paleontology	0418
Paleozoology	0985
Palynology	0427
Physical Geography	0368
Physical Oceanography	0415

HEALTH AND ENVIRONMENTAL SCIENCES

Environmental Sciences	0768
Health Sciences	
General	0566
Audiology	0300
Chemotherapy	0992
Dentistry	0567
Education	0350
Hospital Management	0769
Human Development	0758
Immunology	0982
Medicine and Surgery	0564
Mental Health	0347
Nursing	0569
Nutrition	0570
Obstetrics and Gynecology	0380
Occupational Health and Therapy	0354
Ophthalmology	0381
Pathology	0571
Pharmacology	0419
Pharmacy	0572
Physical Therapy	0382
Public Health	0573
Radiology	0574
Recreation	0575

Speech Pathology	0460
Toxicology	0383
Home Economics	0386

PHYSICAL SCIENCES

Pure Sciences	
Chemistry	
General	0485
Agricultural	0749
Analytical	0486
Biochemistry	0487
Inorganic	0488
Nuclear	0738
Organic	0490
Pharmaceutical	0491
Physical	0494
Polymer	0495
Radiation	0754
Mathematics	0405
Physics	
General	0605
Acoustics	0986
Astronomy and Astrophysics	0606
Atmospheric Science	0608
Atomic	0748
Electronics and Electricity	0607
Elementary Particles and High Energy	0798
Fluid and Plasma	0759
Molecular	0609
Nuclear	0610
Optics	0752
Radiation	0756
Solid State	0611
Statistics	0463
Applied Sciences	
Applied Mechanics	0346
Computer Science	0984

Engineering	
General	0537
Aerospace	0538
Agricultural	0539
Automotive	0540
Biomedical	0541
Chemical	0542
Civil	0543
Electronics and Electrical	0544
Heat and Thermodynamics	0348
Hydraulic	0545
Industrial	0546
Marine	0547
Materials Science	0794
Mechanical	0548
Metallurgy	0743
Mining	0551
Nuclear	0552
Packaging	0549
Petroleum	0765
Sanitary and Municipal	0554
System Science	0790
Geotechnology	0428
Operations Research	0796
Plastics Technology	0795
Textile Technology	0994

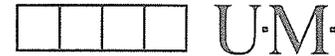
PSYCHOLOGY

General	0621
Behavioral	0384
Clinical	0622
Developmental	0620
Experimental	0623
Industrial	0624
Personality	0625
Physiological	0989
Psychobiology	0349
Psychometrics	0632
Social	0451



Nom _____

Dissertation Abstracts International est organisé en catégories de sujets. Veuillez s.v.p. choisir le sujet qui décrit le mieux votre thèse et inscrivez le code numérique approprié dans l'espace réservé ci-dessous.



SUJET

CODE DE SUJET

Catégories par sujets

HUMANITÉS ET SCIENCES SOCIALES

COMMUNICATIONS ET LES ARTS

Architecture	0729
Beaux-arts	0357
Bibliothéconomie	0399
Cinéma	0900
Communication verbale	0459
Communications	0708
Danse	0378
Histoire de l'art	0377
Journalisme	0391
Musique	0413
Sciences de l'information	0723
Théâtre	0465

ÉDUCATION

Généralités	0515
Administration	0514
Art	0273
Collèges communautaires	0275
Commerce	0688
Économie domestique	0278
Éducation permanente	0516
Éducation préscolaire	0518
Éducation sanitaire	0680
Enseignement agricole	0517
Enseignement bilingue et multiculturel	0282
Enseignement industriel	0521
Enseignement primaire	0524
Enseignement professionnel	0747
Enseignement religieux	0527
Enseignement secondaire	0533
Enseignement spécial	0529
Enseignement supérieur	0745
Évaluation	0288
Finances	0277
Formation des enseignants	0530
Histoire de l'éducation	0520
Langues et littérature	0279

Lecture	0535
Mathématiques	0280
Musique	0522
Orientation et consultation	0519
Philosophie de l'éducation	0998
Physique	0523
Programmes d'études et enseignement	0727
Psychologie	0525
Sciences	0714
Sciences sociales	0534
Sociologie de l'éducation	0340
Technologie	0710

LANGUE, LITTÉRATURE ET LINGUISTIQUE

Langues	
Généralités	0679
Anciennes	0289
Linguistique	0290
Modernes	0291
Littérature	
Généralités	0401
Anciennes	0294
Comparée	0295
Médiévale	0297
Moderne	0298
Africaine	0316
Américaine	0591
Anglaise	0593
Asiatique	0305
Canadienne (Anglaise)	0352
Canadienne (Française)	0355
Germanique	0311
Latino-américaine	0312
Moyen-orientale	0315
Romane	0313
Slave et est-européenne	0314

PHILOSOPHIE, RELIGION ET THÉOLOGIE

Philosophie	0422
Religion	
Généralités	0318
Clergé	0319
Études bibliques	0321
Histoire des religions	0320
Philosophie de la religion	0322
Théologie	0469

SCIENCES SOCIALES

Anthropologie	
Archéologie	0324
Culturelle	0326
Physique	0327
Droit	0398
Économie	
Généralités	0501
Commerce-Affaires	0505
Économie agricole	0503
Économie du travail	0510
Finances	0508
Histoire	0509
Théorie	0511
Études américaines	0323
Études canadiennes	0385
Études féministes	0453
Folklore	0358
Géographie	0366
Gérontologie	0351
Gestion des affaires	
Généralités	0310
Administration	0454
Banques	0770
Comptabilité	0272
Marketing	0338
Histoire	
Histoire générale	0578

Ancienne	05
Médiévale	05
Moderne	05
Histoire des noirs	03
Africaine	03
Canadienne	03
États-Unis	03
Européenne	03
Moyen-orientale	03
Latino-américaine	03
Asie, Australie et Océanie	03
Histoire des sciences	05
Loisirs	08
Planification urbaine et régionale	09
Science politique	
Généralités	06
Administration publique	06
Droit et relations internationales	06
Sociologie	
Généralités	06
Aide et bien-être social	06
Criminologie et établissements pénitentiaires	06
Démographie	09
Études de l'individu et de la famille	06
Études des relations interethniques et des relations raciales	06
Structure et développement social	07
Théorie et méthodes	03
Travail et relations industrielles	06
Transports	07
Travail social	04

SCIENCES ET INGÉNIERIE

SCIENCES BIOLOGIQUES

Agriculture	
Généralités	0473
Agronomie	0285
Alimentation et technologie alimentaire	0359
Culture	0479
Élevage et alimentation	0475
Exploitation des péturages	0777
Pathologie animale	0476
Pathologie végétale	0480
Physiologie végétale	0817
Sylviculture et faune	0478
Technologie du bois	0746
Biologie	
Généralités	0306
Anatomie	0287
Biologie (Statistiques)	0308
Biologie moléculaire	0307
Botanique	0309
Cellule	0379
Écologie	0329
Entomologie	0353
Généétique	0369
Limnologie	0793
Microbiologie	0410
Neurologie	0317
Océanographie	0416
Physiologie	0433
Radiation	0821
Science vétérinaire	0778
Zoologie	0472
Biophysique	
Généralités	0786
Médicale	0760

Géologie	0372
Géophysique	0373
Hydrologie	0388
Minéralogie	0411
Océanographie physique	0415
Paléobotanique	0345
Paléoécologie	0426
Paléontologie	0418
Paléozoologie	0985
Palynologie	0427

SCIENCES DE LA SANTÉ ET DE L'ENVIRONNEMENT

Économie domestique	0386
Sciences de l'environnement	0768
Sciences de la santé	
Généralités	0566
Administration des hôpitaux	0769
Alimentation et nutrition	0570
Audiologie	0300
Chimiothérapie	0992
Dentisterie	0567
Développement humain	0758
Enseignement	0350
Immunologie	0982
Loisirs	0575
Médecine du travail et thérapie	0354
Médecine et chirurgie	0564
Obstétrique et gynécologie	0380
Ophthalmologie	0381
Orthophonie	0460
Pathologie	0571
Pharmacie	0572
Pharmacologie	0419
Physiothérapie	0382
Radiologie	0574
Santé mentale	0347
Santé publique	0573
Soins infirmiers	0569
Toxicologie	0383

SCIENCES PHYSIQUES

Sciences Pures	
Chimie	
Généralités	0485
Biochimie	487
Chimie agricole	0749
Chimie analytique	0486
Chimie minérale	0488
Chimie nucléaire	0738
Chimie organique	0490
Chimie pharmaceutique	0491
Physique	0494
Polymères	0495
Radiation	0754
Mathématiques	0405
Physique	
Généralités	0605
Acoustique	0986
Astronomie et astrophysique	0606
Électronique et électricité	0607
Fluides et plasma	0759
Météorologie	0608
Optique	0752
Particules (Physique nucléaire)	0798
Physique atomique	0748
Physique de l'état solide	0611
Physique moléculaire	0609
Physique nucléaire	0610
Radiation	0756
Statistiques	0463

Biomédicale	05
Chaleur et thermodynamique	03
Conditionnement (Emballage)	05
Génie aérospatial	05
Génie chimique	05
Génie civil	05
Génie électronique et électrique	05
Génie industriel	05
Génie mécanique	05
Génie nucléaire	05
Ingénierie des systèmes	07
Mécanique navale	05
Métallurgie	07
Science des matériaux	07
Technique du pétrole	07
Technique minière	05
Techniques sanitaires et municipales	05
Technologie hydraulique	05
Mécanique appliquée	04
Géotechnologie	04
Matières plastiques (Technologie)	07
Recherche opérationnelle	07
Textiles et tissus (Technologie)	07

Sciences Appliqués Et Technologie

Informatique	0984
Ingénierie	
Généralités	0537
Agriculture	0539
Automobile	0540

PSYCHOLOGIE

Généralités	06
Personnalité	06
Psychobiologie	03
Psychologie clinique	06
Psychologie du comportement	03
Psychologie du développement	06
Psychologie expérimentale	06
Psychologie industrielle	06
Psychologie physiologique	09
Psychologie sociale	04
Psychométrie	06

A PHENOMENOLOGICAL STUDY OF EMERGENCY NURSING:
AN INTERPRETIVE APPROACH TO IDENTIFYING
AND DESCRIBING CLINICAL PRACTICE

BY

BETH BRUNDSON-CLARK

A Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements for the degree of

MASTER OF NURSING

© 1993

Permission has been granted to the LIBRARY OF THE UNIVERSITY OF MANITOBA to lend or sell copies of this thesis, to the NATIONAL LIBRARY OF CANADA to microfilm this thesis and to lend or sell copies of the film, and UNIVERSITY MICROFILMS to publish an abstract of this thesis.

The author reserves other publications rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's permission.

I hereby declare that I am the sole author of this thesis.

I authorize the University of Manitoba to lend this thesis to other institutions or individuals for the purpose of scholarly research.

Beth Brunsdon-Clark

I further authorize the University of Manitoba to reproduce this thesis by photocopying or by other means, in total or in part, at the request of other institutions or individuals for the purpose of scholarly research.

Beth Brunsdon-Clark

ABSTRACT

This interpretive and descriptive qualitative research study was designed to understand the meaning of the practice of emergency nursing from the perspective of six emergency nurses. The research questions addressed the "know how" of emergency nursing practice. Phenomenological philosophy guided the exploration of the meaning of the decision-making practices for the six nurses who worked in an urban tertiary care emergency department in one Canadian city. The research design, Phenomenology, was the facilitating factor which allowed for the rich context of the practice of emergency nursing to unfold. The research methods included participant observation and interviewing. Constant comparative analysis and substantive coding were used to analyze the data.

Three themes emerged in data analysis, reflecting the participants' perspectives of their practice. They were: Knowing, Caring and Carework, and the Human-Environment Relationship. The inter-relatedness of the themes were embedded in the findings of the research. The theme, Knowing, addressed the decision-making processes of the six emergency nurses. The findings revealed that no one theory of decision making currently described in the literature applied to the participants' experience. Rather, most decisions were made along a continuum and related to the state of the emergency environment. Caring was found to be an important contextual variable, influencing the nature of the process of decision making. Knowing and Caring were connected and impacted on one another. The product of these two components was Carework. The essence of Carework was to create order within a chaotic emergency environment. Guided by the Theory of Chaos, the researcher was able to provide a new understanding of the practice of emergency nursing.

ACKNOWLEDGEMENTS

I would like to take this opportunity to acknowledge the many people who have made the completion of this study possible.

To my committee members, I wish to extend a thank you: Dr. Erna Schilder, who was my initial chair. Erna helped me to see the mist that surrounds the gorillas and I will be eternally grateful for her different way of seeing the world.

To Dr. Barbara Paterson, chair of my thesis committee, whose warmth, encouragement and continued faith in my ability has kept me going and inspired me more times than she will ever know. I deeply thank you for your support and friendship.

To Dr. Ina Bramadat, whose insight made me think past what was the obvious and pushed me to take another look at what might be, I extend my sincere appreciation.

To Dr. Jamie Lynn Magnusson, who came to my rescue by sharing her expertise and by doing

so, demonstrated her commitment to higher education, I extend my sincere gratitude.

To the participants of this study, the six emergency nurses, who freely let me into their "lived experience" I dedicate this study to you. A heartfelt thank you.

There are many people who have given me special friendship, collegiality, and support throughout my graduate program and I thank all of you sincerely.

To my avid supporters and best critics, my family. Thank you to my husband, Richard, whose love and endless encouragement became a catalyst for completion of the study. To our daughter, Julie, who so often has said good night from the top of the basement stairs, while Mom wrote "one last sentence" ... a big hug to you. To my parents, who always gave me meaning and encouraged me to be the best that I could be.

Finally, to the Canadian Nurses' Foundation and the Manitoba Association of Registered Nurses', whose financial support made this study possible.

TABLE OF CONTENTS

	Page
ABSTRACT	iv
ACKNOWLEDGEMENTS	v
CHAPTER ONE Purpose of the Study	1
Background Information	3
Research Questions	6
Significance of the Study	7
CHAPTER TWO Philosophical Perspective	9
Assumptions Underlying the Study ...	11
Epistemological Matrix	12
Decision Making Theory	14
Rationalistic Perspective	14
Information Processing	
Model	14
Hypothetico-Deductive	
Model	22
Decision Analysis	27
Phenomenological Perspective ..	34
Decision Making in Nursing	
Practice	43
Decision Making in Medicine	53
Decision Making and the Science	
of Administration	61
Conclusion	75
CHAPTER THREE Methodology	76
Study Design	76
Physical Setting	80
Participants and Participant	
Selection	81
Data Collection Methods	82
The Researcher as the	
Instrument	83
Participant Observation	84
Interviewing	87
The Researcher Participant	
Relationship	91
Data Analysis and Interpretation ...	94

Establishing Rigor in the Study	99
Truth Value	100
Applicability	102
Consistency	103
Neutrality	104
Ethical Considerations	105
Limitations of the Study	108
Summary	115
CHAPTER FOUR Presentation of the Findings ..	117
The Demographic Nature of Clinical Practice	117
The Context of Clinical Practice ...	122
Knowing	123
Knowing the Patient	124
Knowing the Family	135
Knowing the System	135
Knowing the Technological Environment	138
Knowing the Subculture	140
Knowing the Self	143
Other Ways of Knowing	145
Intuitive Ways of Knowing	145
Significant Knowing	150
Caring and Care Work	153
Caring in Context: The Human Condition	154
Intentionality	159
Quantum Caring	167
The In-Between	168
Reciprocity	172
Time and Helping	179
The Human-Environment Relationship	182
Chaos	182
Order	202
Conclusion	210
Figure I	211

CHAPTER FIVE	Introduction	212
	Relevance of the Findings to the Literature	213
	Knowing	214
	Figure II	217
	Figure III	218
	Figure IV	219
	Contingency Framework and Decision Making Strategies ..	220
	The Context of Decision Making in Emergency Nursing .	228
	Summary	232
	Care and Care Work	233
	Human-Environment Relationship	238
	The Theory of Chaos and Emergency Nursing Practice ..	241
	Conclusion	243
	Figure V	244
	Implications and Recommendations of the Study	245
	Implications for Emergency Nursing Practice	245
	Implications for Education	249
	Implications for Administration	251
	Recommendations for Future Research	254
	Significance of the Study	258
	Limitations of the Study	259
	Conclusion	261
REFERENCES		263
APPENDICES		
APPENDIX A	Individual Interview Guide	293
APPENDIX B	Demographic Questionnaire	296
APPENDIX C	Emergency Nurse Consent Form Consent to be a Research Subject ..	299

APPENDIX D	An Invitation to Participate in Nursing Research	301
APPENDIX E	Content Analysis: Decision Trail	302
APPENDIX F	Time Frame For Participant Observation	313
APPENDIX G	Letter Requesting Access as a Nurse Researcher to the Setting; Letter of Approval for Access .	314
APPENDIX H	Types of Questions to be Used in this Study	319
APPENDIX I	Blueprint of the Health Sciences Centre, Adult Emergency Department ...	320
APPENDIX J	Profile of the Expert Review Panel	323

CHAPTER ONE

Purpose of the Study

In the past years, emergency nursing has gained recognition as a specialty requiring special knowledge and skill (Canadian Nurses Association, 1991; Emergency Nurses Association of America, 1989; National Emergency Nurses Affiliation [NENA], 1990). The scope of practice of the emergency nurse encompasses activities that involve various health problems and level of complexity (Kitt & Kaiser, 1990; Parker, 1994; Purnell, 1991). No other group of nurses in the health care system provides care for both inpatients and outpatients and for medical, surgical, pediatric, gynecological, psychiatric, critical care and multiple trauma patients all in the same unit by the same nursing staff. No other nurse in the health care system deals with a chaotic constantly changing physical and emotional environment. The emergency nurse responds to the gamut of health conditions, patients of all ages, with diverse medical problems in various stages of health and illness, and from different cultural, social and economic backgrounds. Moreover, emergency nurses are required to expand their analysis to include not only nursing knowledge,

but also social work, medical, pharmacy, physiotherapy, political, and economic questions. Although there is increased awareness of the uniqueness of emergency nursing as a specialty it is rarely studied. More often it is seen as analogous to the other specialties which are subsumed under their specialty umbrella (Buschiazzo, 1987). Consequently, clinical practice of the emergency nurse is not well understood and rarely investigated as a unique entity.

No qualitative study has been previously conducted which specifically focuses on decision making processes of emergency nurses. There has been a lack of common commitment to telling the story of emergency nurses, and, therefore, no clear understanding sense of the dimensions the nurse contributes to the emergency care system. Benner and Wrubel (1982) argue that the first step in improving the quality of patient care is to document and adequately describe the "know how" of the experienced nurse clinician.

Benner (1983) explains that clinical knowledge is applied, refined, and extended in the clinical setting. Hence, this study began to

interpret the everyday world of the emergency nurse in the clinical setting as situations unfold. Further, practical knowledge related to the emergency nurse emerged and new understandings were actualized. Lambert and Lambert (1988) emphasize that clinical nursing practice without research is practice built on instincts without validation.

The purpose of the study was to provide a contextualized account of the actual practice of emergency nurses to uncover the skilled knowledge embedded within their clinical practice. A description of emergency nursing work will enhance the understanding of the clinical realm and practices of the emergency nurse. A better understanding is imperative, as there is an ever growing population who requires emergency nursing services.

Background Information

The use of the Emergency Department in North America has dramatically increased since the Second World War (Piscarik, 1980; Jones, Yoder & Jones, 1984). Over the last twenty-five years a variety of studies and reports have shown that the emergency department visits have risen at a

tremendous pace (Bartolucci & Drayer, 1973; Budassi-Sheehy, 1992; Budassi-Sheehy, & Barber, 1985; Davidson, 1975; Dickinson, 1989; Lavenhar, et al., 1968; Magnusson, 1980; Ornato, 1991; Satin, 1972; Schneider, & Dove, 1983; Statistics Canada, 1989; Vaughan, & Gamester, 1966; Walker, 1975). The number of visits has increased steadily, out of proportion to concomitant increases in hospital admissions or clinic outpatient visits (Arden & Rosenquist, 1985; Jones, Yoder & Jones, 1984; Statistics Canada, 1990). In Canada, within one year (1985-1986 through 1986-1987), total visits to ambulatory care units (emergency, clinics, day/night care programs, surgical and medical day care) increased from 32.9 million to 34.6 million. The emergency department comprised 47% of the total ambulatory care visits (Statistics Canada, 1989).

Four major factors are believed to have contributed to the burgeoning demand on emergency service in the last three decades. First, the legislation from the Report of the Royal Commission on Health Service (Hall, 1964) enabled every Canadian equal access to health care in the form of universal medicare. Second, trauma was recognized as the neglected disease of the modern

society (National Academy of the Scientists, and National Research Council, 1966). Third, psychiatric patients and those in need of crisis intervention and emotional support contributed a large share to the increased use of the emergency department (Bartolucci, & Drayer, 1973; Coleman, 1968, 1967, 1963; Gerson, & Bassuk, 1980, Statistics Canada, 1989, Watson, 1978). Fourth, there are an expanded number of people preferring emergency services to primary care thus there is an increased use for non-urgent problems (Allen et al, 1973; Calnan, 1984; Georgopoulos, 1985; Hansagi, Carlsson, & Brismar, 1992; Ingram, et al. 1978; Kahn, et al, 1973; Magnusson, 1980; Schneider, & Dove, 1983; Walker, 1975).

Most Canadians will attend a hospital emergency unit at some time in their lives although they may not formally be admitted to a hospital as an inpatient. In 1989-90, there were 3,741,902 admissions to Canadian hospitals; however, during the same period, statistics indicate that there were 17,751,207 emergency visits (Statistics Canada, 1990). Thus, the ratio of emergency visits to the hospital admissions is

close to a 5:1. Therefore, if the health consumer has contact with a hospital nurse there is a 5:1 chance it will be an emergency nurse.

Although use of the emergency services is escalating, there has been little investigation of how the unique nature of the clinical area affects how nurses practice in emergency departments. Nor is there any relevant literature to suggest how emergency nursing impacts on patient outcomes or in general, the emergency health care system. This study lead to a better understanding of emergency nursing and shed light on this area of specialty.

Research Questions

This study is exploratory in nature and described emergency nursing practice. Further, questions were posed for consideration rather than the formulation of hypothesis for validation. In this sense, the study is theory generating rather than theory testing.

This study focuses on the following research questions:

- 1) How is the practical knowledge of emergency nurses demonstrated in emergency nursing practice?
- 2) How does the emergency nurse make clinical decisions about patient care?

Significance of the Study

Emergency nursing can dramatically influence the delivery and scope of services provided for emergency patients. However, this requires that the practice of the emergency nurses be interpreted to allow for a better understanding of the role. This study was directed at enhancing understanding and interpretation of the role of the emergency nurse. It highlighted the unique contribution that emergency nurses make to health care in Canada. Also, the study helped to generate new knowledge and validate current knowledge about emergency nursing as a specialty, thus contributing to a larger body of specialized nursing knowledge.

The significance of the study is that it allows for interpretation of the actual practices of the emergency nurse. It is directed at enhancing understanding, through rich description and interpretation. This qualitative inquiry

about emergency nursing practice challenged the "status quo" and identified new paradigms or directions of inquiry related to emergency administration, education, clinical practice and research.

Having identified the need and the significance of this research for the nursing profession, a statement of the philosophical framework which guides the study is provided. The review of the relevant literature which follows serves as an epistemological matrix on which to compare and contract the research results.

CHAPTER TWO

Philosophical Perspective

. . . the differences between society and nature is that nature is not man-made, is not produced by man. Human beings, of course, transform nature, and such transformation is both the condition of social existence and a driving force of cultural development. But nature is not a human production; society is. While not made by any single person, society is created and recreated afresh, if not exnihilo, by the participants in every social encounter. The production of society is a skilled performance, sustained and made to happen by human beings (Giddens, 1976; p. 15).

This quote from Giddens (1976), suggests a particular "image of person" embedded in phenomenological view. A person is a self-interpretive being (Heidegger, 1962; Merleau-Ponty, 1962; Ricoeur, 1973; Shultz, 1967). The person does not come into the world predefined but becomes defined in the course of living a life (Benner and Wrubel, 1989).

Phenomenology, which attempts to study the human experience as it is lived is not just a research method but is also a philosophy and an approach (Heidegger, 1962; Merleau, Ponty, 1962;

Oiler, 1982; Omery, 1983). To ensure that the phenomenon is being studied as it appears or is experienced the researcher must not adopt a mechanistic, reductionistic approach. Rather, she must address the phenomenon without preconceived expectations or categories. The researcher is not seeking to validate a preselected theoretical framework or define operational definitions. She strives to understand all data in the experience under study from the perspective of the participants.

This perspective was selected as the research paradigm for the study. It orients to the "gestalt": phenomenology helps to address the human subjectivity and intersubjectivity of the world. The phenomenological tradition maintains that meaning is contextually constructed as a intersubjective phenomena. Human beings create meaning in interaction with one another. The value of knowledge in nursing is, in part, determined by its relevance to and significance for an understanding of the human experience (Allen & Jensen, 1990). In order to gain that level of understanding about emergency nursing,

phenomenology will offer the freedom to explore the richness of this clinical experience and shed light upon the knowledge embedded within.

Assumptions Underlying the Study

Assumptions underlying the study are:

1. Decision making is central to emergency nursing practice.
2. There is a practical relationship between practical and theoretical knowledge.
3. Meanings are embedded in skills, practices, concerns, expectations and outcomes.
4. People sharing a common culture and language have a background of common meanings that allows for understanding.
5. The meanings embedded in skills, practices, concerns, expectations and outcomes cannot be made completely explicit; they can be interpreted by someone who shares a similar language and cultural history, and can be validated by the participants in the same field.
6. There are no data that are interpretation-free.

Epistemological Matrix

Controversy exists as to whether a phenomenological study requires a literature search prior to gathering and analyzing data. Some qualitative researchers' (Glaser & Strauss, 1974; Lynch-Sauer, 1985; Spiegelberg, 1975) believe the researcher need be totally unbiased and free of bounded rationality. Paterson and Zderad (1976) believe that exploring the literature may influence the investigator and therefore lead to contaminated data. These researchers argue that attempting to achieve "objectivity" is based on a false premise; they suggest that subjectivity should not be considered a limitation. In contrast, others (Benner, 1984; Davis, 1978; Field & Morse, 1985; Ray, 1985; Swanson-Kauffman & Schonwald, 1988) suggest that the researcher needs to know something about the phenomena in order to see it in existence. This researcher believes that to review the literature is a practical concession to the realities of the research world. Hence, the investigator has adopted the stance of Swanson-Kauffman and Schonwald (1988). They argue that the research done by others, reviewed before gathering of data,

is a legitimate attempt to bracket personal biases by examining others' descriptions of empirical instances of the phenomenon under study.

This section is referred to as an 'Epistemological Matrix' because the investigator believes that an overview of specific literature will only bring origin and form of another branch of knowledge to explore.

The complexity of the diagnostic process has been examined in many professions, including: medicine, administration, education, psychology and nursing. However, no one has addressed decision making in the context of an emergency environment where limited time, numbers of patients, varying levels of acuity, climates of chaos, fragmented and cyclic processes, and intense degree of uncertainty play a major role. Exploring the literature from different professional perspectives may help clarify emergency nurses' experiences with decision making.

The literature reviewed to help conceptualize this study includes: (1) studies rooted in cognitive psychology that focus on

decision making theory; and (2) a summary of research findings related to decision making in nursing, medicine and administration. These two broad categories are further subdivided as described at the beginning of each section.

Decision Making Theory

Two paradigms will be reviewed to form a body of research that will help to create a world view that relates to the study. The paradigms include decision making from a rationalist perspective and a phenomenological perspective.

Rationalistic Perspective

The first paradigm includes logical models that address how "rational" individuals and groups make decisions. Information processing or process tracing approach; hypothetical-deductive model; and decision analysis approach comprise the major theories most often found within this paradigm and reported in the literature.

Information Processing Model.

Research referring to the information process model began with experimentation by psychologists interested in memory and attention

(Broadbent, 1953; Cherry, 1953; James, 1980).

Much of their work has relevance to nursing and forms the foundation for problem solving and judgment theories of today.

Broadbent (1953), a psychologist, purports that the human brain is able to analyze and identify only a limited amount of information therefore limiting our ability to perceive competing messages. He proposed that the brain contains a "selective filter" that can be tuned to accept the desired message and reject all others. Thus the filter blocks undesired stimuli reducing the processing load on the perceptual system. His model was important because it shaped the direction for future research on information processing.

A crucial set of experiments testing Broadbent's Filter Model were conducted by Gray and Weddeburn (1960). They rejected Broadbent's idea that information processing was based on physical characteristics of sensory channels alone. Gray and Weddeburn found that the attention mechanism must be able to extract the meaning of the information in order to know what alternative to choose.

Treisman (1964) studied selective attention to one of two competing messages. The messages were created by varying a number of different attributes. She demonstrated in this study that by using a variety of irrelevant material she could distinguish between the relative effects of cues based entirely on sensory features and cues that required the determination of familiarity and meaning. This hallmark experiment showed that sensory cues alone are not sufficient for choosing an alternative and therefore refuted Broadbent's work.

Miller (1956) investigated the role of decision units or selective "chunks" on information processing. He stated that there is evidence that the capacity for short term memory is seven, plus or minus two chunks of information. During the same time, Herbert Simon (1957), introduced the idea of bounded rationality in human problem solving, suggesting that the human mind will often conduct a limited search for alternatives, selecting the first satisfactory option. Simon stated that most people do not examine all the possible scenarios nor do they keep searching for optimum alternatives. These

studies by Miller (1956) and Simon (1957) supported the claim that there are limits to human capacity for rational thought (Simon & Newell, 1972).

Craik and Lockhart (1972) added to the understanding about information processing with their study describing levels of information processing. In this study it was revealed that the type of processing that information receives impacts on how well the information is stored and used at a later date. Shallow, cursory processing leads to a holding of information superficially and is associated with short term memory. Thorough, deep processing leads to memory characteristics attributed to long term memory. Craik and Lockhart's formulation of levels of processing offered a new approach and complements the views discussed previously. This research was hallmark because it led the way to other studies looking at different information processing systems (Cofer, 1976; Craik & Tulving, 1975; Restle, 1975) and is in keeping with the current shift from the study of abilities to an inquiry into processes (Messick, 1976).

Two studies in the 70's (Bachrach, 1970; Egstrom and Bachrach, 1971) reported that the role of arousal on information processing, and thereby on decision making, plays an important part on the way we perform a task. In general, the studies found that as arousal increases, attention becomes more narrowly focused. At first, increases to arousal lead to improved performance but then, as arousal builds to its highest level, performance deteriorates. Attention to peripheral tasks decreases while attention to the central task increases; this improves performance.

This set of findings proved to be the impetus for research exploring the concept of "automaticity" (Laberge, 1975). Automaticity refers to an automatic, nonconscious action that requires no conscious attention. Laberge (1975), found that automatic actions seem to be less susceptible to disruption by level of arousal. He notes that when a skill is highly learned, perhaps because it is practiced for years and years, then it becomes automatic, requiring little conscious awareness and little allocation of mental effort. Thus the number of decisions one has to make around a task depends more on the level of experience than on the task itself. Benner,

(1984) a leading researcher in nursing, studied the way novice and expert nurses make decisions. She found, as did Laberge, that experts approach a task environment differently than the novice. Benner describes the phenomenon of automaticity as, "knowledge embedded in expertise" (p. 3).

Findings from other studies (Janis & Mann, 1977; Phillips & Rempusheski, 1985) compliment Leberge's work regarding high arousal states and decision making ability. These studies indicate that critical points in clinical decision making differ according to whether the decisions being made are "hot or cold". For "cold" decision, critical issues include the amount of time available for making the decision, the information processing constraints of the decision maker, the amount of energy available for data collection and political and policy constraints operating in the situation. They proceed to say that for "hot" decisions, more critical cues are issued such as personal and professional values, expectations and consequences. External sources of support and validation appear critical for assisting the decision making process. In addition, this study concedes that perceptions and powerlessness and fear of over-reacting are

immobilizing forces that tend to precipitate defensive avoidance. Feelings that promote high arousal states are characteristic of hot decisions. Therefore, clarification of values, expectations and consequences and validation of power and decision-making competence are critical points in clinical decisions involving hot decisions in nursing (Phillips, 1987).

Recent advances in clinical diagnosis have come from the field of artificial intelligence (Bruner, Goodnow & Austin, 1956; Dreyfus, 1986; Duda & Shortliffe, 1983; Hyslop, 1987; Miller, Pople, & Myers; Newell & Simon, 1972; Shortcliffe, 1976). There was much speculation about the value of this new field since it was thought that it would bridge the divide between psychology, philosophy and computer science by seeking to simulate, by computers, human cognitive processes. Expert systems are computer programs that contain and can apply specialized knowledge and are designed to serve as consultants to the decision making process.

Von Bommel (1986), a physician, found that in the act of making a medical diagnoses, information is seen to be acquired through a

sequence of questions to the patients. Further, each answer does not merely add to known knowledge, but rather it generates inferences which in turn changes the knowledge that the physician has regarding the patient. This new status serves as an impetus to search for further information which leads to inferences and again a new knowledge state. Von Bremmel concluded that the path towards a final problem solution, is a series of small incremental steps involving pieces of inferential logic. He referred to this as a forward chaining process; much like how an expert system makes inferences about the data (Duda & Shortliffe, 1983).

The work of Newell and Simon (1972) has been influential in representing problem solving behaviour as a forward chaining process. The foundation of this information processing model is a series of IF-THEN paired inferential statements called production rules. The problem is solved by using a large number of simple production rules derived from past learning and experience. They are stored in long term memory and can trigger other inferences which will also be followed up in turn depending upon the problem solver's order of the rule system and structure (Jones, 1988).

Hypothetico-Deductive Model.

Confusion exists in the literature about whether the Hypothetico-Deductive Model is distinctly different from Information Processing Theory. It is evident that the theories consist of similar concepts. Studies on decision making, by known researchers (Barrows et al, 1982; Baumann & Bourbonnais, 1982; Corcoran, 1986; Gordon, 1982; Carnevali et al, 1984; Elstein, Shulman, & Sprafka, 1978; Tanner et al., 1987; Westfall, 1986) are cited under both titles. After careful study and critique, the investigator assumed that, the Hypothetico-Deductive Model is subsumed under the title, Information Processing and Information Tracing Methodology. Both models report that action is the result of rational and logical thought, mediated by cognitive processes and there appears to be generalizable strategies of clinical judgment which can be formalized and used in all patient situations (Tenner, 1987).

The researcher using the hypothetico-deductive model relies of verbal protocol analysis while the participant thinks aloud in response to simulated situations thus attempting to determine

the thought process used in each problem. Recent studies, directed at describing thought process show that practitioners set up a weak hypothesis early in the hypothesis generating phase. The practitioner then sets out to find evidence to prove or disprove this "hunch". This approach is clearly seen in studies by Gordon (1982) and Carnevali et al. (1984). These studies have yielded similar results to those in medicine. Elstein and associates postulate that medical problem solving consists of a series of steps: cue acquisition; hypothesis generation; cue interpretation; and hypothesis evaluation (Elstein, Shulman, & Sprafka, 1987). Other nursing studies followed information processing pathways that were similar to Gordon, Carnevali and Elstein and Associates. Diagnostic reasoning studies that are based on the information processing model seek to clarify how clinicians adjust to demands of the task environment (Baumann & Bourbonnais, 1982; Bourret, 1987; Putzier et al., 1985; Tanner, 1983; Tanner et al., 1987). These diagnostic reasoning studies examined the cognitive strategies employed by clinicians and nursing students when solving problems. It was thought that if nursing could gain a better understanding of the diagnostic process of

clinicians (expert and novice), then this would assist educators and student nurses in the teaching/learning process (Westfall et al., 1986). However, within the wealth of findings, there was no significant difference in the way registered nurses activated hypothesis versus nursing students. It was reported that registered nurses tend to activate a greater number of complex hypothesis than did students but the inference activation process was the same (Westfall et al., 1986). These studies reflect similar strategies are common to those of physicians and medical students (Elstein, Shulman, & Spafka, 1978). Both sets of studies used similar research methods to explore cognitive processes. Patient simulation and verbal protocol analysis was used as a strategy to examine problem solving behaviour of expert nurses and nursing students, physicians and medical students. Generally, nursing and medicine found that clinicians activated an hypothesis early in the data search and that they relied on cue-based data acquisition more often than other strategies when solving problems. Barrows and Tamblyn (1980); Elstein, Kagan, Shulman, Jason, and Loupe, (1972) used a similar approach to characterize underlying processes relating to medical decision making. Their goal was to

capture the thought process by recording and analyzing the verbalizations of persons as they attempt to solve a problem.

Corcoran, Narayan, and Moreland (1988) used verbalization as a method to collect data from experienced triage nurses. The participants listened to phone information about three triage vignettes in which the researcher "role played" the patient. The investigators reported that triage nurses used three types of knowledge to make a decision about the simulated patients: textbook knowledge, practical knowledge, and rule of thumb.

Corcoran (1983, 1986) studied the relationship among task complexity, clinical expertise, and the decision making plans to control patients' pain. She used a sample of expert and novice hospice nurses. Corcoran found that all the subjects made intermediate decisions about alternatives during the process, rather than following the generation of alternatives. The approach to the planning process varied from case to case. However, she found that the experts used an opportunistic approach. It was employed in cases of greater complexity and a systematic

approach was used in cases that were less difficult, thus varying their strategy according to task complexity. The findings of this study supports the cognitive model proposed by Hayes-Roth and Hayes-Roth (1979) and the conclusions found in information processing literature, as cited throughout, that the task itself is a major determinant of decision-making. Hayes-Roth and Hayes-Roth recognized that opportunistic planning creates a greater memory load than does systematic method. They suggest that for planning tasks fraught with complexity and uncertainty, opportunistic planning may free the clinician from the burden of maintaining a systematic approach and may allow for a variety of plans.

The literature confirms that experts are more able to "chunk" information and are more efficient at encoding (Benner, 1984; Gordon, 1982). Findings showed that experts appear to think in patterns rather than in isolated bits. Gordon (1982) sees this as an example of concept attainment. Concept attainment is brought about by internalized pattern matching activity of incoming cluster of perceptual cues to labelled standardized diagnostic patterns held within the long term memory (Jones, 1988).

Although there are differences between these models there is convergence on several perspectives. All perspectives maintain that early hypothesis generation is a method used to adapt to cognitive limitations of "bounded rationality" (Simon, 1957). Bounded rationality describes the limits to the human capacity for rational thought. Given the limited size of the working memory (James, 1956; Norman, 1967), one must process data serially, select data by ruling in or out, represent a problem in a simple manner and work within as simple a frame of reference as possible (Elstein, et al., 1978).

Decision Analysis.

Decision analysis is a process first developed by Raiffa (1968) at the Harvard Business School. This model offers a framework for considering alternative strategies in an explicit and logical manner by means of mathematical or statistical models. Decision analytic methodology involves the construction of a "decision tree" that structures the clinical problem in the form of possible pathways. Each element along a pathway is assigned subjective numerical value. For instance, subjects are given a case scenario

and are asked to assign numerical value or probability to each. It involves the specification of options and potential outcomes for chance. Expected values are then computed and an optimal choice is made (Behn & Vaupel, 1982). The value of key factors can be varied and a sensitivity analysis can be performed (Pauker & Kaissirer, 1987). This search for the right solution is highly mathematical since its roots are grounded in management science, and engineering (Weinstein & Fineberg, 1980).

Lanza and Bantly (1991) discuss the different methods used in decision analysis. There are decision trees, used for complex problems where there are numerous uncertainties and simple solutions are not obvious. Algorithms involve simple clinical decisions that are made automatically according to a set of prescribed rules. An algorithm is designed for common clinical situations with few uncertainties and where accepted practice has provided a standard method of management (Margolis, 1983). A protocol is a uniform way of approaching a problem that leads to an anticipated optimal outcome (Greep &

Siezenis, 1989). These three types of decision theories have been used by nursing to study decision making processes.

Two studies addressing clinical inferencing, using the Brunswick Lens model were reported by Kelly (1964) and Kelly (1968). These studies attempted to correlate relationships between state of the patient, observable cues, criterion states, and the nurse's judgment. Within the studies both Kelly and Hammond specified the phenomenon of the "intuitive inductive reasoning" of nurses. However, the model appears to be more a conceptual framework than a methodology (Tschkota, 1991). Initial attempts to study decision making in nursing revealed very little, suggesting that there was no relation between a single cue and a nursing action (Kelly, 1964; Hammond, Kelly, Schnieder, Vancini, 1966); nor between grouping cues and inferencing (Hammond et al., 1966).

Another study by Hammond et al. (1967) compared nurses' revisions of decisions with those expected by a mathematical model. Bayesian Theory was used to mathematically replicate six nurses' estimates of the probability of certain nursing

problems. Findings regarding consistency demonstrated that nurses manipulated the probabilities in a rational way that was consistent with the axiom of probability theory. Hammond and her associates found that nurses did not use efficient or systematic strategies for choosing actions and that even strategies used by experts broke down when situations became complex. They then concluded that even though clustering of cues can be taught, these cues are not necessarily used when making a decision in conditions of complexity and uncertainty. However, because the cognitive model did not represent the nurses' decision making, the investigators stopped studying nurses using this method.

Grier (1976) and Corcoran (1983, 1986) used the utility theory to investigate the correlations between 50 nurses. They investigated nurses' intuitive decisions and decisions prescribed by the utility theory. Utility theory is a form of normative decision making that describes selection of an action that is based on a subjective assignment of value to probable outcomes of those actions, prescribing the choice that maximizes expected utility. The findings supported the hypothesis that the expected value

and nursing actions are in agreement. The findings also reported that systematic and objective processes were used in making most decisions, resulting in a justifiable choice for achieving the desired goal (Grier, 1976). Tanner (1986) criticized Grier's conclusions, stating that the outcomes and actions were too prescribed and decisions were not evaluated in terms of actual patient outcomes.

Aspinall (1979) studied whether the availability of decision trees would improve the accuracy of nurses' clinical decisions. The investigator found that nurses in the experimental group using the decision tree selected significantly more clinical diagnosis that were considered accurate than the two control groups who did not use the decisions trees. Aspinall concluded that "significant improvements in diagnostic accuracy were shown by nurses who used the decision trees" (p. 182); she demonstrated that providing more clues increased the likelihood of finding the predetermined right answer.

Shamian (1991) evaluated the effect of teaching decision analysis on nursing students' ability to prioritize clinical intervention given

the probabilities for the decision situation. The researchers concluded that subjects who were in the experimental group, where they had a four hour didactic and interactive teaching session on decision analysis, selected clinical decisions that were in accordance with the clinical decisions made by experts more often and more consistently than did students in the control group. These results suggest that decision analysis focuses on essential aspects of the nursing process; hence nurses should be provided instruction in decision analysis theory.

In summary, the investigators in all studies examined elements associated with decision analysis and decision theory. The researchers demonstrated support for decision analysis strategies which assist nurses in clinical decision making. However, it appears that decision analysis as a tool for enhancing decision making has not been pursued in nursing. Nursing, unlike medicine, has few areas that can provide objective probability estimates. This may be due to the multiple variables attached to patient response and outcome. Aspinall and Tanner (1981), suggest that there are factors limiting the usefulness of decision analysis in nursing

research. They include: decision theory is known to be most effective when all the conditions are controlled, and the decision alternatives are mutually exclusive (Aspinall, & Tanner, 1981).

Tanner (1987) cites a number of assumptions shared by the studies within the rationalistic perspective: (1) action is the result of rational and logical procedures, mediated by cognitive thought processes; (2) there are generalizable strategies of clinical judgment which can be formalized and used in all situations; (3) a situation can be broken down into its elements; (4) the knowledge used by clinicians in making judgments can be made explicit and they can be formalized; (5) human judges are limited in their capacity to be objective and rational.

Gardner (1985) a phenomenologist, states:

A feature of cognitive science is the deliberate attempt to de-emphasize certain factors which may be important for cognitive functioning but whose inclusion at this point would unnecessarily complicate the cognitive -- scientific enterprise. These factors include the influence of affective factors or emotion, the contribution of historical or

cultural factors and the role of the background context in which the particular actions or thoughts occurred (p. 6).

This quote from Gardner reflects a different perspective from that of the rationalistic paradigm just discussed. The phenomenological perspective maintains that meaning is contextually constructed as an intersubjective phenomenon. Human beings create meaning in interacting with one another. Hence, because of the different views of the world, it stands to reason that different questions will be asked, which will require the use of different perspectives. This research focuses on the lived experience of emergency nurses. Therefore, it is important for the investigator to explore facets of the phenomenological perspective related to decision making.

Phenomenological Perspective.

The phenomenologic paradigm provides a shift away from the rationalistic approach. In contrast to the rationalistic method of problem solving, the phenomenologic perspective accords with a holistic view of nursing. Those who believe in the phenomenologic perspective (Benner, 1984; Benner & Tanner, 1987; Benner & Wrubel,

1988; Fenton, 1987; Schilder, 1986) contend that: action precedes rational analytical thought; there are limits to the use of formal strategies that dissect clinical judgment without addressing the context in which the action occurs; experts use patterns and relations which are not context free; experts use patterns and relations which are not context free; experts use embedded practical knowledge as the basis for clinical judgment and it may not be rendered explicit or formal. Harbison (1991) also contends that sensitivity is lost and the basis for decision making is weakened when a situation is analyzed into discrete elements.

The most stark contrast to the rationalistic model is provided in the form of hermeneutic inquiry, grounded in Heideggerian phenomenology (Benner, 1984; Benner & Wrubel, 1982, 1988; Benner & Tanner, 1987). Hermeneutic inquiry is the semantic or textual structure or everyday events: that is, what people actually do when they are engaged in everyday practical tasks of life. Heidegger (1962) identified three distinct modes of engagement. The practical mode is the most basic. The practical mode is day to day. One's awareness is essentially holistic and

cannot be broken into discrete parts for it is the interrelatedness that distinguishes the whole meaning of an activity or situation. Expert practice takes place in the practical mode (Benner & Tanner, 1987). The reflective mode is used when the individual meets with a problem or breakdown in the practical activity. However, it is still seen as part of the task, rather than an element to be examined out of context. The theoretical mode occurs when the person detaches from the ongoing practical task and relies on the use of rational, logical thought processes to cope with the problem. Here, the individual analyzes the elements of the problem out of context. The phenomenologist's perspective regarding the rationalistic approach states that the analytic processes of clinical judgment are used only when the individual can consciously detach themselves from the task.

Benner's work illustrates this inquiry in the nursing context. She interviewed and observed experienced nurses, new graduates and nursing students (Benner, 1984). Nurses were asked to describe situations that held significant meaning for them. Using the interview and the field study observations as textual

interpretations, Benner explains that expert judgment derives from a grasp of the whole situation. She continues to say that this salience is a qualitative or perceptual assessment based on a combination of "the senses of touch, smell, and sight and on the interpretation of a patient's physical verbal, and behavioural expression" (Benner & Wrubel, 1982). In the same study by Benner, it is reported that development of expert clinical decision-making ability develops in three ways: (1) it evolves from the use of abstract principles as a basis for making decisions to the use of past concrete experiences; (2) it changes in the way the nurse perceives the patient situation as bits of information to a perception of a complete whole, in which only selective bits matter; and (3) there is movement from detached observer to full involvement in a situation (Tanner, 1987).

Nurses acknowledge the role the "gut feeling" plays in their practice (Benner, 1984; Paterson & Zderad, 1976; Harbison, 1991; Pyles & Stern, 1983; Rew, 1988; Rew & Barrows, 1987). Intuition is an individual's ability to solve problems despite relatively small amounts of information (Westcott, 1968). Loye (1983)

identified three types of intuition. The first, cognitive inference, occurs when conclusions are reached spontaneously. During analytical reasoning the steps are so fast and subliminal that the person does not observe or remember engaging in the act of reasoning. The second, "Gestalt intuition", where the person detects missing data, gaps in information, or hidden relationships within the whole. The third, is "precognitive". This type refers to the possibility of gaining information directly about the future rather than by inference based on the past and present.

Paterson and Zderad (1986) propose that intuition combined with rational analysis is an addition and complements the nursing process. In a study by Pyles and Stern (1983), the formation of a "Gestalt" is identified which supports the claims made by Loye (1983) and Benner (1984). These findings lay claim that experts may be hampered rather than facilitated by the use of rationalistic models of decision making.

Model cases of intuition have been described by Rew in several studies (Rew, 1986; Rew & Barrow, 1987; Rew, 1988; Rew, 1990). Rew

and Barrow (1987) conclude from an analysis of nursing literature that the idea of intuition has been neglected by the nursing profession. In a concept analysis, Rew (1986) adds to the understanding of the concept of intuition by defining three of the attributes: (1) knowledge as a whole; (2) immediate awareness of the knowledge; and (3) knowledge that does not result from linear analysis (p. 27). Benner and Tanner describe it as "understanding without rationale (p. 23). Rew (1988) explored the intuitive experiences of nurses in critical care and home care settings. Four behavioural themes which emerged from the fifty-six interviews are as follows: (1) nurses gathered data to support their intuition; (2) nurses try to validate or corroborate their intuition; (3) nurses report their findings and feelings; and (4) nurses performed specific interventions on behalf of the patient based on a sense of assumption, a future think.

Allen (1990) speaks of "significant knowing", as that which moves a person to the core, instructs and enables a person to transcend the limits of everyday concern. Kleffel (1990) adds to this novel thought with her analysis of

the environmental domain of nursing. Conclusions reached from this research indicate that nursing does not describe adequately the concept of the environment and that almost all the research conducted in the domain of the environment only involves the immediate and obvious milieu of the patient, family or nurse. Very little is written about, and even less is acknowledged about, the nurse's connectedness to all things within the environment. It is apparent that the "in-between" relationship of nursing with the environment is not recognized as an important facet of decision making in context.

The situational model, developed by Dreyfus and Dreyfus (1979) and applied by Benner (1984) to nursing, provides a comprehensive framework for understanding the practice of nursing in thta since it regards as essential the nonformalizable aspects: commitment; tradition; practices; skills; and connoisseurship. It also includes the abstract, formal, and analytical aspects that are impossible to capture in quantitative analysis (Anderson, 1989). The Dreyfus model maintains that the behaviours of experts can only be understood in holistic situational context.

In summary, the phenomenological approach assumes that in expert practice, action precedes rational thought and that experts use patterns and relations rather than context free elements as the basis for judgment. This method also assumes that knowledge used as a basis for clinical decision making is practical, derived from experience with similar and dissimilar situations; the knowledge is embedded in practice.

Conclusion

Studies that employed the rationalistic paradigm illustrate similar findings (Aspinall, 1979; Baumann & Bourbonnais, 1982; Bourret, 1987; Corcoran, 1983 & 1986; Grier, 1984; Hammond et al., 1967; Shamain, 1991; Tanner, 1983; Tanner et al., 1987). Important facts have been gleaned about cue acquisition, hypothesis generation, and hypothesis testing in relation to the reasoning process.

After review of the literature, it is evident that decision theory in nursing research on clinical decision making is inconclusive. There seems to be significant difficulties in the

application of quantified decision analysis techniques to areas such as nursing. Much of the numerical data needed for probability estimates are difficult to identify and difficult to obtain (Jones, 1988). Two other factors limit the utility of decision theory for studying decision making in nursing. First, decision theory is known to be most effective when the conditions regarding the decision are controlled and the decision alternatives are mutually exclusive. However, these conditions are not representative of the nursing context.

There is evidence that with increasing expertise there is less emphasis on the use of abstract principles and formal rational approaches to decision making and more use of practical knowledge in holistic and intuitive judgments. There are a small number of studies that use the phenomenological approach compared to the rationalistic perspective.

To understand lived through
experience is to go beyond the
taken for granted aspects of life.
It is to uncover meanings in
everyday practice in such a way
that they are not destroyed,
distorted, decontextualized,
trivialized or sentimentalized.

(Benner, 1985, p. 6)

This section of the chapter helped to gain a better understanding of decision making theory. Earlier, it was stated that decision making is the essence of practice, consequently this study will incorporate the phenomenological perspective in order to best study the essence of emergency nursing in context. Studies from nursing medicine and administrative sciences will be reviewed next.

Decision Making in Nursing Practice

No studies have been reported which attempt to clarify the science and theory of emergency nursing practice in context. The gaps are apparent and help to validate the significance of this study. Many studies have investigated nurse practitioners and critical care nursing groups (Baumann & Bourbonnais, 1982; Baumann & Deber, 1987; Benner, Tanner, & Chelsa, 1992; Carnevali, et al., 1984; Cheyovich, Lewis & Gortner, 1976; Davidson & Lauver, 1984; Donnelly & Prevot, 1978; Janis & Mann, 1977; Prescott & Driscoll, 1979; Tanner & Larkin, 1984; Taylor, Pickens & Geden, 1989; Yedida, 1981).

Much has been written about clinical practice of the nurse practitioner in the United States. The literature that focuses on the practice of the nurse practitioner may help to describe the practice of the emergency nurse, as there are some similarities. The patient population that both groups may see is usually undiagnosed and in need of primary care services. The majority of emergency visits (75%) are non-urgent in nature: i.e., undiagnosed and requiring primary care (Allen, et al., 1973; Georgopoulos, 1985; Hansagi, Carlsson, & Brismar, 1992; NENA, 1987; Statistics Canada, 1989).

Several studies have been reported that examine the decision making strategies of critical care nurses. This literature is germane to this study as both the emergency nurse and the critical care nurse are expected to make rapid decisions in crisis and unstable situations (Holsti, 1978). Attention to the body of literature citing nurse practitioners' clinical practice will be addressed first followed by studies that illustrate decision making strategies of the critical care nurse.

Prescott and Driscoll (1979) found in their review of nurse practitioner-physician

comparison studies that few studies attempted to clarify the nursing component of the nurse practitioner's role. They commented that failure to include criteria that reflect the nursing component of the role was a major problem. The authors stated that medicine and the physician role has become the standard for evaluating the quality of nursing in the domain of nurse practitioners, rather than the role of nursing care as a standard. This study addresses the issue of how emergency nurses evaluate themselves, using medicine rather than nursing as a gold standard.

Cheyovich, Lewis and Gortner (1976) explored the nature and scope of the nurse practitioner role in ambulatory care. These investigators found that nurse practitioners demonstrate the ability to provide primary care to a wide variety of patients with diverse medical diagnosis and multiple problems with a great degree of accuracy. The authors report a phenomenon they termed "the elusive aspect of process". This phenomenon refers to the nurse-patient relationship and includes: an informal agreement with the patient; frequent monitoring of the patient's health status with appropriate

feedback; considerable health education and counselling usually regarding a defined problem; and coordination of services that meets the patient's requirements.

Yedida's (1981), qualitative study was based on actual nurse practitioner's (NP) patient encounters. His findings illustrate that teaching and counselling appeared to be important. However, the extent to which these aspects were integrated into care was limited by environmental factors: time limits; and existence of treatment protocols. Findings, such as these, provide support for claims that setting factors have a direct impact on the nurses' ability to provide nursing care. Time restraints and patient acuity influence the degree to which nursing care can be actualized (Moscovice, 1978; Williams, 1975).

Bibb (1982) compared nurse practitioners and physicians on free response to simulated case studies. Findings indicated that there were not differences between NP's and MD's in their accuracy to choose a correct diagnosis. Nurses (NP) were found to include more health education and follow-up information in the management plan than did the MD. Bibb concluded that the results

of the study supports the premise that the NP provides the educational focus for the patient/family.

Brykczynski (1986), in her doctoral thesis, investigated the practice of nurse practitioners from the perspective of phenomenology. She was specifically investigating whether Benner's framework, "Novice to Expert", existed within this group of health professionals. She observed ten NPs, and their encounters with actual patients. The findings described practice domains and competencies that were unique to skilled NPs. Conclusions were drawn on the commonalties between Brykczynski's results and that of Benner (1984). Brykczynski and Benner report common domains and competencies: the helping role; the teaching-coaching function; diagnostic and patient monitoring function; administering and monitoring therapeutic intervention regimens; and organizational and work role competencies. Brykczynski concluded that the practice of NPs was made visible, understandable, and open for critical review due to the nature of the findings. The study provided a great deal of new information about competencies of the skilled NP. Further, this study illustrated how fruitful

the situation-based interpretive approach can be when trying to identify and describe practical knowledge embedded in clinical practice.

Critical care nursing literature focuses on the elements of immediacy of decision making, stressing that decisions are made under conditions of uncertainty, often without a complete data base and under pressure of time (Baumann & Deber, 1987).

Baumann and Bourbonnais (1982) reported that intensive care nurses (ICN) considered stress, knowledge and experience to be the three most important factors in rapid decision making. Personal values held by nurses were identified as playing a role in emergency situations, where the primary goal is to save the patient's life.

Several articles have examined the presence of stress in the intensive care unit (Anderson & Basteuns, 1981; Bourbonnais & Baumann, 1985b; Cleland, 1967; Fenton, 1987; Grout, Steffen, & Bailey, 1981; Huckabay & Jagla, 1979; Ivancevich & Matteson, 1980; Lewis & Robinson, 1987; Lippincott, 1979). It is documented that a moderate amount of stress in a working environment

leads to a hypervigilant state which is necessary prior to mobilizing oneself for rapid decision making (Fairman, 1992; Janis, 1977). If stress levels increase intolerably, thinking quality deteriorates (Cleland, 1967). Further, Holsti (1978), states that this increased stress level results in decreased attention to vital cues in the environment and reduces ability to discriminate the dangerous from the trivial.

A study conducted by Lochoff, Cane, Buchanan, and Cox (1977) showed that rapid decision making, without assistance, was ranked high, as a major source of stress. Janis and Mann (1977) concurred with Lochoff and associates. They extended Lochoff's thesis to include, high-quality decision making under stress is possible only if repeated training programs exist.

Fenton (1987) in her master's thesis indicated that critical care nurses are most distressed by situations involving excessive therapy and discontinuation of therapy. The stress that practitioners felt would at times require a significant period of resolution and had carry over effects on decision making.

Nurses' experience and knowledge are important factors to consider in high risk areas (Baumann & Bourbonnais, 1983a, 1983b, 1984; Bourbonnais & Baumann, 1985a; Baumann and Deber, 1987, 1989; Kim, 1983, 1984, 1987; Mitchell, 1977; Norman, 1985; Pyles and Stern, 1983). Nurses in situations requiring rapid decision making must be able to differentiate between relevant and irrelevant cues. The expert should be able to discern the critical from the trivial and act with speed in a crisis situation (Berner, 1984). However, the cues may be ambiguous in that they are consistent with many patient problems. This can lead to poor decisions and error (Baumann & Bourbonnais, 1984).

Experience and repetition of a situation provides the nurse a repertoire of responses to call on in a fast paced situation (Gordon, 1982). Studies show that experts develop heuristic methods of data analysis, which calls for a mix of action as a best response to a crisis in the environment. Repetition of tasks and experience with similar situations help the practitioner respond appropriately in an emergency (Broderick & Ammentorp, 1979; Calkin, & Gulbrandsen, 1978).

Baumann and Bourbonnais' (1982) study reported that most decision making is straight forward except when unexpected events occur. Unexpected or untoward situations that erupt spontaneously cause decision making to become more complicated. These situations require clinicians to have additional experience with unusual cases and especially with distracting or misfitting cues (Bordage, 1984).

The limits of decision analysis for rapid decision making in ICU nursing was examined in a study by Baumann and Deber (1989). Forty nurses in two ICU's were asked to describe their decisions for six pretested vignettes. Later ICU charge nurses were asked to rate the nurses' responses, using a Q-sort methodology. The findings showed that the experts could not agree on which alternatives were most appropriate. The researchers concluded that the lack of mutually exclusive alternatives, as well as the absence of a gold standard to evaluate outcomes, would appear to preclude the use of decision analysis in intensive care situations. The nature of a crisis may impede the usefulness of a linear approach to problem solving. Capturing how one makes a rapid

decision in an emergency situation (i.e., crisis decision making) is difficult to define (Baumann & Deber, 1989).

Henry (1991a, 1991b) studied the effects of patient acuity on the decision making of critical situations. Ventricular tachycardia represented the high-acuity situation and atrial flutter the low. Clinical decision making was measured by a proficiency score, and patient outcome: cure or death. Experienced and inexperienced nurses did not differ on the proficiency score. However, inexperienced nurses collected more data and cured fewer atrial flutter simulations. Nurses certified in advanced cardiac life support had higher proficiency scores, and identified atrial flutter and ventricular fibrillation with fewer data. It was concluded that ICU nurses with more experience and education had a higher chance of identifying and responding to critical cues regarding a life threatening and non-life threatening dysrhythmias more often than did the inexperienced nurses.

In summary, the literature supports that a multi-faceted approach to research on decision making has occurred in critical care nursing. The

studies examined contributions to a better understanding of the way critical care nurses made decisions. They addressed the critical nature of time and making decisions on the run. Two variables were consistent throughout this literature that had an influence on clinical decision making: experience and knowledge or educational level. Still, little is known about decision making behaviour in an emergency situation. This study extends the exploration of decision making to situations of high uncertainty, and promotes the understanding of the processes emergency nurses use in everyday work life.

Medicine and nursing both share common ground. Medicine has studied decision making extensively, especially the aspect of diagnostic reasoning in clinical medical practice. Due to this close link, a review of the literature related to medical decision making is presented.

Decision Making in Medicine

In medicine, decision making is associated with descriptive or normative approaches to solving problems. The methods distinguish among choices, chances and values. These are incorporated into a systematic

quantitative assessment of alternate actions (Fineberg, 1984). Generally, medical decision making has been reported as involving the specifications of options and outcomes, with values attached to each. Expected values are weighed and an optimal choice is made (Behn & Vaupel, 1982). This search for the optimal solution is highly mathematical and is supported to a great degree by the medical community since it makes explicit the data on which a choice is made (Kassirer, Moskowitz, Lau, & Pauker, 1987).

Research by Elstein, Shulman and Sprafka (1978) explored the clinical decision making processes by physicians and medical students. From these studies, Elstein and his associates proposed a four stage model of diagnostic reasoning. It includes: (1) attending to initial cues; (2) activating hypothesis; (3) gathering data to rule in or out; and (4) evaluating the hypotheses.

In the initial studies, Elstein and associates identified that there was a consistency across subjects in the way the physician generated an early hypothesis and gathered data to test the hypothesis. Early hypothesis generation has been

identified in other medical studies (Barrows & Bennett, 1972; Barrows & Tamblyn, 1980; Kassirer & Gorry, 1978; Norman, Tugwell, Feightner, Muzzin & Jacoby, 1985). Information processing theory describes early hypothesis generation as "chunking". This aids in space conservation in the short term memory by clustering data into familiar patterns (Elstein et al., 1978). Another finding purported that performance was not generalizable across problems and that data gathering skills transcended the types of problems. These findings were corroborated in further studies by physicians (Berner, 1984, Harasym et al., 1980).

Kuipers, Moskowitz and Kassirer (1988) performed a study in which three MD's were asked to make important clinical decisions under circumstances of risk and uncertainty. Strategies used to sequence information in order to formulate a decision were found to be similar. The authors concluded that the cognitive method for formulating a decision appeared to be incremental, breaking the overall decision into pieces and thereby making the task more manageable.

Johnson, Kurtz, Tomlinson, and Howe (1986) examined the effect that unconscious sociocultural stereotyping have on clinical decisions. Three entering classes of medical students and forty physicians were shown a videotape depicting five simulated patients. Elements of positive and negative stereotypes were incorporated and the subjects were asked to rate each. The results suggested that the students and the MDs attributed both positive and negative characteristics to patients with little justification on the basis of irrelevant data, such as attractiveness. The authors concluded that stereotypic generalizations occur in practice settings and they may cloud clinician's ability to objectively make a clinical decision.

Gale and Marsden (1982) looked at the initial period of contact with a problem situation: i.e., prior to generation of the first hypothesis. Students, house officers and staff physicians with a mean of five years of clinical practice were studied. Although no description of the thinking process could be concluded from this study, it was found that problem solvers make active interpretive, or evaluative responses to clinical information as soon as it is encountered.

The subjects were able to extrapolate from a single piece of data to form an interpretation. This is contrary to other studies that examine the problem solving/decision making process of health professionals (Barrows, & Bennett, 1972; Elstein, Shulman, & Sprafka, 1978; Hammond, et al., 1967; Kassirer & Gorry, 1978; Neufeld, Norman, Feightner, & Barrows, 1981; Tanner, et al., 1988).

In medicine, a presence of a "gold standard" is important in decision making. A gold standard comes from concrete evidence or by an expert's opinion. The expert develops criteria and acceptable reference standards on which to base a decision (Baumann & Deber, 1989; Cebul, & Beck, 1985).

Decision analysis has been a popular choice for medicine when studying decision making processes of physicians and medical students. Most of the work has utilized the mathematical approach to making an informed educated guess. Bayes' Theorem and Utility Theory considers maximal probability or the strongest likelihood of the occurrence of an event. The purpose of using Bayesian inference is to give a patient's

condition a probability rating, and not to regard every disease as equally probable (Bandman & Bandman, 1988). Thus, the practitioner would start with the simplest, most common hypotheses then proceed to test more complex hypothesis as simpler hypotheses are ruled out. Many medical studies have used this method to explore high risk decisions made in conditions of uncertainty (Albert, 1978; Fineberg, 1984; Pauker & Kassirer, 1987; Kassirer et al., 1987; Weinstein & Fineberg, 1980). Major criticism of these studies include:

- (1) Problems with high risk will have an accepted decision criterion -- to choose the alternative that maximized a positive outcome;
- (2) Accuracy of estimation is a problem. The estimates are based on clinical studies, the gold standard and a "sensitivity analysis" which will produce a variety of probabilities;
- (3) The problem of what to do when the results do not "feel right";

- (4) Studies have shown that physicians decisions are based on a rough assessment of probabilities, which are less than accurate. It has been concluded that neither students or physicians strategize using a Bayesian methodology to reduce uncertainty (McGuire, 1985); and

- (5) The limitations of time, cost, and expertise to undergo an analysis precludes this method as being realistic and it does not generate maximum tangible benefits.

Factors influencing the decision making process of physicians have been reported to be: education (Neufeld et al., 1981), experience (Barrows & Tamblyn, 1980); Elstein et al., 1978; Kassirer & Gorry, 1978; McGuire, 1985) and thorough knowledge of the field (Barrows & Feltovich, 1987). The attributes of knowledge and experience to medical decision making ability relates to a great degree to findings discussed in the nursing literature.

In summary, medicine has studied the decision making processes exclusively from the perspective of the rationalistic paradigm (Tanner, 1987). As a consequence, the research suggestive of the existence of a universal problem solving method is debated (Berner, 1984). Information processing theory, hypothetico-deductive inquiry and decision analysis all are in its infancy and have yet to address contextual concerns and issues. Barrows and Feltovich (1987) criticize the use of structured situations because they do not represent the real world. Studying participants in their real setting, encountering every day problems, would lead to a better understanding of the way physicians make complex decisions in actual practice.

The previous literature demonstrates that nursing and medicine have striking similarities in the way both groups solve problems. Not only do both nursing and medicine experience the same cognitive processes but also factors influencing decision making and the problems encountered were reported as similar in nature. Therefore, this study will contribute to the existing knowledge held by nursing and medicine regarding decision making processes.

Further, it will allow both fields to appreciate the movement from the rationalistic to the phenomenological paradigm when a different level of discourse regarding the complexities of the decision making process is reached.

Decision Making and the Science of Administration

Administration and economic sciences have been highly involved in studying the nature of decision making in unstructured situations. Since the investigator required an understanding of decision making in uncertainty, this section of the literature review explored management research that addressed decision making in "ill-structured" situations.

Research by MacCrimmon and Taylor (1987) report that in organizations, most of the important decision problems are of an ill-structured variety (MacCrimmon & Taylor, 1987). They found that factors contributed to the ill-structuredness of the environment were: uncertainty, complexity and conflict. Research into organization-level decision making identified four models: the systems analysis model, the

Carnegie model, the incremental decision process model, and the "garbage can model" (McMillan, 1980; Nutt, 1976).

The systems approach to decision making employs a mathematical and statistical technique to solve urgent, large scale problems beyond an individual decision maker's scope. Quantitative representations of alternative solutions and probability of each one solving the problem are developed using devices such as linear programming, Bayesian statistics, PERT charts and other analytical devices (Daft, 1986). For example, multi-attribute analysis tends to be a method used in order to study decision making when the problem is too complicated for human processing (Daft, 1986).

Systems analysis also produces failures (Leavitt, 1975; Grayson, 1973). It was reported by Daft and Wiginton, (1979) that the computer based scanning systems provide valuable abundant data but only about tangible, measurable factors. Tangible informal cues that indicate the existence of many problems have to be sensed on a personal level. The authors concluded that the important role of systems analysis is to act as a supplement

to managerial decisions; the final decision will include qualitative factors as well as quantitative calculations.

The Carnegie model of organizational decision making is based on the work of Cyert, March, and Simon (1963). Until their work, research in economics assumed that business firms made decisions as a single entity. Research by the Carnegie group indicated that organizational level decisions involve many managers. The final choice was based on a coalition among management.

Daft (1986) reports that coalitions prove to be necessary for two reasons:

- 1) organizational goals are often ambiguous and inconsistent; and
- 2) individual managers are intendedly rational, but function with human cognitive limitations.

A coalition will reduce uncertainty by encouraging an exchange of all the known information among the stakeholders. The managers will be concerned with immediate problems and short run solutions. They engage in what Cyert and March (1963) refer to as problemistic search. Problemistic search means that managers look around in the immediate environment for a satisfactory solution to quickly resolve the

problem. Managers do not expect a perfect solution when the situation is ill-defined and conflict laden. This contrasts with the systems analysis approach, which assumes that analysis can uncover every reasonable alternative. According to the Carnegie model, search behaviour is just sufficient to produce a satisfactory solution and managers will adopt the first satisfactory solution that emerges. Search procedures are usually simple and alternatives are already outlined in policy and past routine. Rules and procedures prevent the need for renewed coalition-formation.

Mintzberg and associates (1976) approached organizational decision making from a different perspective. They identified twenty-five decisions made in organizations, and traced the events associated with these decisions from the beginning to end. This research identified each step in the decision sequence. This model is called the incremental decision process model. This approach to decision making placed more emphasis on the sequence of activities undertaken than the political and social factors. One of the important discoveries reported from this research is that major organizational choices are usually a

series of small choices that combine to produce a major decision. Mintzberg and his associates found that organizations move through several decision points and hit barriers called "decision interrupts". The investigators state that decision loops are one way the organization learns what works and what does not.

The pattern of decision phases reported by Mintzberg (1976) are similar to what has been discussed previously by the other professions: i.e., nursing and medicine. The identification phase begins with recognition of a problem. The second step is "diagnosis", which is where more information is gathered if needed to define the problem. Several problems do not have time for extensive diagnosis. The response must be immediate.

The developmental phase is when the response is shaped by the problem defined in the identification phase. The development of a solution takes one of two directions. A search procedure may be used to seek out standard solutions and alternatives in the current repertoire. Another direction described is to "design" a custom solution. This occurs when the

problem is novel and the previous experience has no value. Mintzberg et al., found in these cases that the key decision makers have only a vague idea of the ideal solution. Gradually by trial and error a solution evolves. Development of a solution is a groping, incremental process.

The "selection" phase is when the solution is chosen. Selection is not a choice among alternatives as an evaluation of the single alternative that seems feasible.

Mintzberg and his associates also describe dynamic factors that influence decision making. They include, timing, politics, disagreement among managers, inability to identify an appropriate alternative or to implement the solution, turnover of managers, or sudden appearance of a new alternative.

Mintzberg and his associates concluded that decision making is a dynamic process that may require a number of cycles before a problem is solved. The process is seldom linear and is influenced by factors in and out of managers control.

Lindblom, in a series of articles (1959, 1965, 1968), presents a view of decision maker that supplements that of the Carnegie Group (1963) and Mintzberg's (1972) research. He presents "disjoint incrementalism" (simply called the science of "muddling through") as a decision making strategy. Lindblom attacks the economist's rational or synoptic approach. In Lindblom's opinion, the rational approach fails because it does not recognize man's inability to cope with complex problems, the lack of information, the cost of analysis, the problems of timing, and the difficulties of stating realistic goals.

Lindblom states that decision makers act in a remedial fashion, moving away from ills rather than toward goals. Only marginal alternatives are considered and few consequences are considered. He states that managers act in serial, or stepwise fashion, making an incremental change, interpreting the feedback, making another change, and so on.

The garbage can model is one of the more recent models of organizational decision processes (Cohen, March & Olsen, 1972). This model is different from the others described because it

pertains to the overall pattern of decisions, rather than to the sequence involved with a single decision. This model was designed to explain the pattern of decision making in organizations that experience very high uncertainty. Cohen, March, and Olsen (1972) called the extremely uncertain conditions an "organized anarchy". Their study purports that organized anarchies have three characteristics.

1. Problematic Preferences: alternatives, solutions, and goals are ill defined. Ambiguity characterized each aspect of a decision process.
2. Unclear, Poorly Understood Technology: Cause and effect relationships are difficult to identify. The knowledge base that applies to decisions are unclear.
3. Fluid participation: Organizational roles experience turnover of participation. The organization is energy poor. Employees are busy and

have limited time to allocate to any one problem or decision. Participation in any one decision will be fluid and limited.

The organized anarchy described by Cohen, March, and Olsen (1972) depicts organizations characterized by rapid change. The garbage can model is useful for understanding some types of decision making in all organizations. The model emphasizes that the decision making process is not a sequential endeavor that begins with a problem and ends with a solution. Rather, the problem identification and problem solution stages may never connect to each other. The reason problems and solutions are not connected is that the decisions are outcomes of independent streams of events within the organization (March & Romelaer, 1976). The importance of the concept proposed by March and Romelaer is that the pattern of decision making takes on a random quality. "The organization is like a large garbage can that is being stirred" (March & Romelaer, 1976, p. 254). Organization members are intentionally rational, but events are so ill defined and complex that decisions, problems, and solutions are independent. Four consequences of the garbage

can decision process as reported by Cohen, March, and Olsen are:

1. Solutions are proposed even when problems do not exist;
2. Choices are made without solving problems and under conditions of high uncertainty the choice may be incorrect;
3. Problems may persist without being solved; and
4. A few problems are solved.

The garbage can model of decision making suggests that levels of uncertainty within the organizational environment impact on the way decisions are processed. For this research, it was important to explore the notion of uncertainty as it relates to environment and decision making.

Daft (1986) outlines the concept of environmental uncertainty. He states that the patterns and events in the environment can be described along six dimensions, such as whether the environment is stable versus unstable,

homogeneous versus heterogeneous, concentrated versus dispersed, simple versus complex, the extent of turbulence, and the amount of resources available to support the environment. He states that these characteristics reduce to two themes: 1) the need for information; and 2) the need for resources. This review will focus on the theme, need for information.

According to Duncan (1972) uncertainty means that decision makers do not have information about environmental factors, and they have a difficult time predicting external changes. Uncertainty increases the risk of failure for actions, and makes it difficult to compute costs and probabilities associated with decision alternatives (Dess & Beard, 1984; Duncan, 1972). Characteristics of the environment domain that influence uncertainty were summarized along two domains by Dess and Beard (1984). Those dimensions were outlined as the extent to which the external environment is simple or complex, and the extent to which events are stable or unstable.

Environmental complexity was described by Jurkovich (1974), and refers to heterogeneity, or the number of external elements that are

relevant to an organizations' operations. In a complex environment, a large number of diverse external elements will interact with and influence the organization. In a simple environment as few as two or three can influence the organization.

The stable - unstable dimension refers to whether the elements in the environment are dynamic (Dess & Beard, 1984). An environmental domain is stable if it remains the same over a period of months to years. Under unstable conditions, environmental elements shift abruptly. Instability may occur when people react with aggressive moves and counter moves. Unpredictable events create an unanticipated reaction and will cause hyperturbulence (McCann & Selsky, 1984).

Duncan (1972) developed a framework for assessing environmental uncertainty. In the simple, stable environment uncertainty is low. There are only a few external elements to contend with and they tend to remain stable. The complex, stable environment represents greater uncertainty. A larger number of elements have to be scanned and analyzed. External elements do not change rapidly or unexpectedly in the environment.

Even greater uncertainty exists in the simple, unstable environment. Rapid change creates uncertainty for managers (Tung, 1979). Even though the organization has few external elements, they are hard to predict, and they react unexpectedly. The greatest uncertainty occurs in the complex, unstable environment. A large number of elements impinge upon the organization, and they shift frequently or react strongly. When several sectors change simultaneously, the environment becomes turbulent (McCann & Selsky, 1984).

Thompson (1987) conceptualized the organization as a "technical core" surrounded by "buffering departments". The buffering departments help to absorb the uncertainty from the environment. Jemison (1984) describes "boundary spanning roles" as links that coordinate the organization. The boundary role establishes a relationship with individuals and organizations in the environment. By carrying information back and forth between environment and organization, plans and activities can be coordinated and uncertainty reduced. Jemison found that boundary spanning roles, serve two purposes:

1. to detect and process information about changes in the external environment; and
2. to represent the organization to the environment.

Boundary spanning roles concentrate on information, and, hence, serve an overlapping function with buffer departments that transfer materials, resources, services, and money between the environment and the organization. They also serve as personnel who scan and monitor events in the environment domain in order to keep current about environmental changes. As the environment becomes complex and unstable, the organization needs a larger number of buffers and boundary spanners. The high uncertain environment is the most difficult environment from a management perspective due to the multitude of ever changing variables (Tung, 1979).

In summary, four decision making models were reviewed from research in administrative studies. The single most important ideas emerging from this review was related to the overwhelming impact of the external environment on management uncertainty and organizational functioning. The

literature captured the implications for organizational design and action due to the change and the complexity within the environmental domain.

Conclusion

This section of the chapter, referred to as an Epistemologic Matrix, includes a review of studies grounded in cognitive psychology that focused on the strategies of decision making, and a summary of research findings related to decision making in Nursing, Medicine and Administrative Studies.

The researcher reviewed the literature with two goals in mind: (1) in order to gain an understanding of the decision making process that emergency nurses may employ in the emergency setting, and (2) to help the investigator with the technique of bracketing. The investigator met both of the goals during and following the literature review.

CHAPTER THREE

Methodology

Study Design

Phenomenology is an inductive, descriptive research method (Omery, 1983). The ethos of the method is to portray the human experience as it actually occurs in living a life. "It should be recognized that the intent of this method is not to build grand theories of nursing but to understand the lived experience of people" (Anderson, 1989, p. 25). Further, phenomenological research is a human science which strives to "interpret and understand" rather than to "observe and explain" (Bergum, 1989).

Expertise in complex human decision making such as in nursing practice makes the interpretation of clinical situations possible. The knowledge embedded in this clinical expertise is central to the advancement of nursing practice and to the development of nursing science (Benner, 1984). Thus, phenomenology was selected for this study because it has the potential to capture the practice of emergency nurses. According to Omery (1983), phenomenological research methods are most appropriate when the researcher is trying to

understand the lived experience of individuals in context. Other reasons for choosing phenomenology in this study include: (1) data gathered in this study include all available phenomena; subjective meanings that experiences hold for participants (Oiler, 1982); (2) phenomenological researchers need understand both the cognitive subjective perspective of the person who has the experience and the effect that perspective has on the lived experience or behaviour of that individual (Speigelberg, 1965); and (3) phenomenology provides an opportunity to interpret complex phenomena, such as emergency nurses' practice within their contextual setting (Anderson, 1989; Heidegger, 1962).

Many researchers who support and promote the phenomenological method for the social sciences prefer not to restrict the approach to a structured methodology or sequence of steps (Giorgi, 1970; Morris, 1977; Omery, 1983; Speigelberg, 1970). Therefore, this researcher did not develop a set of rigid steps, but rather proceeded as the direction of the experience indicated without restrictions of a structure.

The research design was based on Heideggerian Phenomenology. Heidegger believed that human beings are constituted by their interpretations, which are always based on background meanings within a cultural context (Hoeller, 1988). The background for interpretation rests upon skills, practices, assumptions and cultural mores (Dreyfus, 1985). The goals of the interpretation are: to uncover patterns and themes; to make the commonplace visible and understood; and to offer plausible explanation (Sandelowski, Davis & Harris, 1989). In order to obtain the understanding of the human experience, a particular viewpoint within the paradigm of phenomenology was chosen, that of hermeneutics.

Writings of Heidegger and Gadamer describe hermeneutics as an encounter with Being through language and they raise questions as to the relationship of language to understanding, history, existence, and reality (Palmer, 1969). Heidegger states: "Discourse is the meaningful articulation of the understandable structure of being-in-world" (p. 204). A hermeneutical approach focuses on the attempt to achieve a sense of the meaning that others give to their own

situation through an interpretive understanding of their language, art, gestures and politics (Smith, 1983).

Heurmeneutics is a system of interpretation (Ricoeur, 1981). Interpretation is an attempt to make clear or to make sense of an object of study (Taylor, 1979). The object of study must be a text or text analogue. A text is any discourse (conversation or speech) transcribed into written word. Behaviours and actions described in writing are considered to be text-analogue (Ricoeur, 1981).

The task of this study was to describe one type of human phenomena: i.e., emergency nursing. The purpose of the heurmeneutical description is to achieve understanding through interpretation of the phenomena under study. It is the written description of the phenomena (text and text analogue) that is the object of interpretation (Allen and Jensen, 1990).

As a research paradigm, the approach of phenomenological heurmeneutics is an expression of a particular ontological and epistemological view (Fenton, 1987). It is the approach that embraces

critical feminist and philosophical beliefs (Diekelmann, 1991; Kagan-Krieger, 1991; MacPherson, 1983). This method gave definition to the conception and the process of this investigative effort.

In a phenomenological or naturalistic sense, the lived experience is the "ordinary" way in which we perceive reality (Ermath, 1978).

Benner (1985, p. 6) states,

To understand lived through experience is to go beyond the taken for granted aspects of life. It is to uncover meanings in everyday practices in such a way that they are not destroyed, distorted, decontextualized, trivialized or sentimentalized". This investigation is aimed at clarifying individual nurses realities in an effort to understand the "know how" embedded within the practice of emergency nursing.

Physical Setting

The study took place in the Emergency Department at the Health Sciences Centre, Winnipeg, Manitoba. The Health Sciences Centre is 1060 bed, tertiary care, university affiliated teaching hospital. The emergency department employs 34 full time and 28 part-time registered nurses. The census of the emergency department

averages approximately 150 patients daily. The department has a "bed" capacity of 25 and is divided into five care areas. They include: Triage, Primary Care, Observation, Acute Care, and Resuscitation (Appendix I). The researcher observed nurses working in the triage, acute and resuscitation areas of the emergency department. The participants stated that this would capture the "know how" of the emergency nurse better than the other areas listed (i.e. primary care; observation).

Participants and Participant Selection

A purposive sample was drawn from volunteers who are registered nurses in the emergency department at the Health Sciences Centre (HSC). Ethical approval was granted from the Nursing Ethical Review Committee at the University of Manitoba, Faculty of Nursing and the Health Sciences Centre Research Foundation.

One month prior to contacting the staff, the investigator met with the Head Nurse and obtained a list of all the nurses who met the inclusion criteria. The inclusion criteria included: (1) must be an R.N. working in the

emergency department at HSC and, (2) must provide direct patient care for more than 15 hours a week. Excluded for the study were those Rn's who worked less than a .5 of a full time position.

A letter of invitation (Appendix D) was sent to all of the nurses who were eligible, inviting them to be a participant in the study. The investigator also posted an invitation in the nurses' lunch room stating the criteria and asking for volunteers. Participation in the study was voluntary. The final sample selection became the first six individuals who contacted the investigator over a three week period.

Data Collection Methods

Within one month of agreeing to participate in this study, each participant was contacted by telephone to arrange for a suitable time and location to meet in order to review the ethical nature of the study and to obtain their signature on the consent form. Not only did this meeting serve to establish the beginning of a relationship it became an opportune time for arranging a fieldwork schedule with each participant.

The Researcher as the Instrument

The participants were the primary source of data for the study and the investigator the primary "instrument". Phenomenologically based nursing research should be grounded in the clinical expertise and experience of the nurse conducting the research (Holden, 1991). Accordingly, I obtained an essential description of the participants lived human experience, developing relationships in which I intensively studied relatively few participants (six).

To deal with internal issues of bias, I "bracketed out" the self, by examining prejudgments and commitments so as to be a receptor of the phenomena. Speigelberg (1975) and Glaser and Strauss (1967) stated that the researcher need be totally unbiased and free of bounded rationality. To explore the literature may influence the researcher and could lead to contaminated data (Paterson & Zderad, 1976). Others (Davis, 1978; Benner, 1984; Ray, 1985; and Schilder, 1989) suggest that the researcher needs to know something about the area in question in order to see the phenomena in existence. This

researcher embraced the importance of bracketing to ensure that the data remains as true as possible to the lived experience of the participants. Research done by others that is reviewed before studying informants is a legitimate attempt to bracket personal biases by examining others' descriptions and empirical instances of the phenomenon under study (Swanson-Kauffman and Schonwald, 1988).

The investigator's expertise in the practice of emergency nursing expedited the entire process of data collection and analysis by: quickly unraveling the complexities of the emergency culture; early detection of emergency data matrices; early detection of recurring clusters; and effectively focusing in on emergency themes and subthemes.

Participant Observation

"Participant observation is like a dance. Knowing when and how to move, when to be still, and how to gracefully recover when somebody's toes get stepped on are central to a smooth operation."

(Strasser, 1989).

McCall and Simmons (1969) state that it is probably misleading to regard participant observation as a single method. These authors refer to participant observation as a

characteristic blend or combination of methods and techniques involving some amount of social interaction in the field with the participants of the study, some direct observation of the relevant events, some formal and informal interviewing, some systematic counting, some collection of documents, and open-endedness in the direction the study takes
(p. 1).

The investigator's experiences with participant observation reflect the same phenomena as McCall and Simmons describe.

Three to six four hour blocks of time per shift were scheduled with each participants. Due to the irregularities of the participants' shift work, the investigator spent more time engaged in fieldwork activities than originally planned. The proposed time was for three months, beginning the summer of 1990, ending the fall of 1990. Fieldwork was completed by the end of the spring of 1991.

As an observer, the investigator observed and recorded data that were perceived in order to understand each situation. The investigator engaged in three different types of observation: descriptive, focused and selective (Spradley, 1980). Underlying each of these forms of observation, a mode of inquiry existed which was based on asking questions. The basic unit of inquiry was the question-observation (Spradley, 1980). The types of questions included: descriptive, structural, contrast, and stimulated recall techniques (Appendix H). All types of questions were asked concurrently and spontaneously as situations arose. At times, questions had to be asked after the fact since patient care could not be interrupted. This caused a barrier to communication as a delay blurred the nurses' ability to remember feelings, and at times facts. They sometimes stated that they could not remember even when prompted.

The record of the participants' and the investigator's experiences consist of fieldnotes. Fieldnotes followed Spradley's (1979) guided format. It included a field journal and an analysis and interpretation personal journal. Each participant was allocated a separate notebook

with a designated code number. This process ensured confidentiality when the participants reviewed their own fieldnotes. The field journal contained records of experiences, ideas, confusions, problems, and breakthroughs that arose during field work. The personal journal included reactions to subjects and others, analysis and interpretations of experiences, and data sensed from the environment.

Interviewing

Research has identified limitations of conducting interviews using the traditional rationalistic paradigm of scientific inquiry (Harding & O'Barr, 1986; Oakley, 1981; Webb, 1984). The interview process traditionally has been a controlled, detached, and structured process where the interviewer was perceived as owing power and holding specific knowledge (Anderson, 1991; MacPherson, 1983).

This research was to rely on the lived experience of the participants. The interview was to have captured their narratives; their stories of their experiences. A traditional structured interview would not have fit with the

phenomenological method nor the phenomenologic philosophy. It also would not have fostered the wholeness of the participants' experience:

This conceptualization of human beings as narrators and of their products as texts to be interpreted constitutes a potentially critical moment for nursing because it reveals, and suggests solutions for analytic problems that have typically been disguised in conventional theory-and-method debates about objectivity and validity (Sandelowski, 1991, p. 161).

Open-ended, minimally structured interviews were planned with each participant (Appendix A) following the participant observation experience. The participants were asked to come to the investigator's office where there was privacy and quiet. The participant and the investigator faced each other and had direct eye contact. The atmosphere was not stressful for the participant nor the investigator. A rapport had been established earlier in relationship, occurring during the participant observation phase of the study.

At the beginning of the interview, the participant was asked to hand in a biographical demographic questionnaire (Appendix B) given at

the beginning of the participant observation phase. This questionnaire included information related to age, educational background, work experience, and likes and dislikes related to the emergency department.

Participants were informed at the time of the initial contact that the interview would take approximately one to one and a half hours. The researcher asked their permission to tape record the interview. Generally, the interviews varied in length from less than one hour to one and a half hours. Participants were unanimous in their consent to have the interview taped.

The open ended questionnaire sought answers from the respondents that expressed their unique thoughts. This strategy left the participant the freedom to express him/herself with fewer limits imposed by the researcher (Hulley & Cummings, 1988).

A significant aspect of the interview process became the use of stories to illuminate particular situations that the participant had encountered. The researcher was familiar with this perspective since the participants told the

investigator many of their "war stories" during the fieldwork experience. Story segments and the emotion that accompanied many provided a rich contextual basis representing a "whole" of the lived experience. The segments became the story of the emergency nursing experience, a moment in time caught forever and available for study. According to Body (1988), in the nursing story" there is an indivisible unity of the person who is experiencing and the object or subject of that person's experience (p. 126). The participants' stories naturally serve as an exquisite source for understanding the content of emergency nursing. Stories call to mind the commonalities of nursing situations as well as the beauty and uniqueness of each (Boykin & Schoenhofer, 1991).

Interviewing was particularly productive in helping to clarify, validate and expand upon what had been observed by the investigator. The interview was deemed best placed after the participant-observation phase since the rapport had already been established over time and a base of trust was present. Consequently, the interviews were considerably more intense and personal than they may have otherwise been.

The Researcher Participant Relationship

The researcher believes that the duality of participant observation and the open-ended interview enhanced the scholarship of the study. This form of methodological triangulation is most appropriate when studying complex concepts that contain many dimensions (Mitchell, 1986). The combination of two dissimilar methods created the potential for counterbalancing the flaws or weaknesses of one method with the strengths of another. In the study, counterbalance was evident. During the interviews, participants expressed that one area of weakness was the activity of patient teaching. All participants expressed that this area was not attended to adequately. On observation the researcher found that patient teaching was fragmented and did not follow the traditional format laid out in a text. If the interview had been the only source of data, then valuable information that only the context could supply would have been lost or not found.

The phenomenological epistemological tenet provide the foundations for the approach. This approach lead the researcher to establish an authentic relationship (Connors, 1988) with the

participants. The authenticity and the ability of the researcher to become engaged in the process, rather than hiding in the role of researcher, made up a crucial component of the study. It led to an ongoing investigation of personal experiences, intentions, expectations, and prejudices in the context of the research endeavor. Rowles (1988) describes the essence of this methodology as a "quest for authenticity". Due to this quest, this research became collaborative in nature involving co-ownership and shared power with respect to the process and to the product of the research. The nature of the relationship established by "being there" helped to preclude the possibility of imposing the investigator's perspective on the participants. It was understood that the participants and the researcher co-created the situation under study. The researcher tried to create a context of reciprocity. It was explained to the participants that the fieldwork and the interview provided an opportunity for exchange of information. The researcher believed that it would be deceitful and exploitive if the study simply used the participants as a means of data collection and had given back nothing to them. As an expert in the emergency nursing arena, the investigator had access to wider information than

the participants and it was not justifiable keeping it silent. Consequently, the researcher felt a sense of responsibility to the participants. When the participants spoke of deficiencies in the system, the investigator suggested a course of action. When the participants asked for information regarding care, the researcher provided them with articles. When the participants needed empathy, the researcher tried to provide the necessary support.

Participant-observation and the interview process provided the chance for mutual consciousness raising and working together to challenge the system in order to provoke change. During the study, the researcher's consciousness was raised in relation to the value of nursing and the sense of despair that the participants held for their work situation. This knowledge has had an influence on the researcher; increased respect for the value of qualitative research since it reveals for the first time the real life and work experience of the emergency nurse. That is, it clarifies the unique nature of the emergency clinician in context.

The researcher knows that an intimate rapport would not exist in the absence of: investment of self, sharing and giving information, advice and support whenever there was a need or opportunity, and striving to make the study meaningful and useful to the nurses without breaching ethical codes. This journey into uncharted territory was frightening and confusing for me as a novice researcher. The experience would have been enhanced if there had been access to a support group. Other more experienced researchers, such as the researcher's advisor, helped to provide the investigator with advice and a climate for sharing problems, conceptual difficulties, awkward situations encountered in the field, new methods, successes and failures and standards of excellence for comparison.

Data Analysis and Interpretation

Benner (1983) suggests that studying practical knowledge resembles the interpretation of a text. The demographic questionnaire, the transcribed text and text analogue, and the personal journal comprise the text. Data collection, analysis, and verification and the development of an understanding occurred simultaneously throughout the research study

(Sandelowski, Davis, & Harris, 1989). All data collected in this study stems from an interaction between the inquirer and the participant. Data analysis in this research included elements of constant comparative analysis, which is a method often used in naturalistic inquiry (Glaser and Strauss, 1967; Lincoln & Guba, 1985).

The technique of constant comparison (Atwood & Hinds, 1986; Brykczynski, 1985; Diekelmann, 1992; Duffy & Hedin, 1988; Hoffart, 1991; Lincoln & Guba, 1985; Mitchell, 1986; Munhall & Oiler, 1986; Paterson, 1991; Sandelowski, 1986; Sarter, 1988; Spradley, 1979) was used to discover the clusters, themes and subthemes embedded within the data.

The initial step in the process of analysis occurred during the data gathering phase itself. The investigator attempted to clarify and understand the participants' behaviours as thoroughly as possible. In transcribing the data, further clarification resulted from consulting the personal journals that had been kept during the field work experiences.

The reflection which occurred with each participant was also a step in a quest for meaning and promoted critical thinking about what was seen, heard, and felt. Data analysis occurred throughout the process of data collection since it involved a systematic process of searching for common meaning. Focusing on emerging elements during fieldwork scenarios and during the interview provided an opportunity to explore in greater detail those areas which were of particular concern with each participant.

Analysis of the data began with substantive coding (Sandelowski, Davis & Harris, 1988). Substantive coding is an initial reduction of data where the substance of the data is summarized without imposing an interpretation on the data. Substantive coding also includes reading the data in its entirety without imposition of theoretical construction. (Sandelowski, Davis, & Harris, 1988). Data matrices (Miles & Huberman, 1984) were developed from the text and text analogue. The researcher went through the transcript and underlined significant words and phrases in order to identify the data matrices. By applying a process of constant comparison of the data matrices, common

clusters were identified. The clusters identified include: (1) experiencing and knowing; (2) human condition; (3) having concern and compassion; (4) communicating, verbal/nonverbal; (5) teaching and coaching; (6) being the in between; (7) systems tracking; (8) order and structure; (9) chaos, complexity and uncertainty; and (10) decision making in uncertain conditions.

As stated previously, the technique of constant comparison was used in order to identify the common underlying phenomena within the data. This method of constant comparison was used again to discover the core categories or unified grounded themes that grew out of the clusters. This method involved moving back and forth among the data matrix to the clusters to the themes to clarify the presence, variation, and absence of a pattern. The themes that emerged from this process include: 1. Knowing; 2. Care and Care Work; and 3. The Human-Environment Relationship.

The unified grounded themes were broken into subthemes in order to define their geneses. Under the theme, Knowing, the following subthemes emerged: 1. knowing the environment; knowing the patient, knowing the family, knowing the system,

knowing the subculture and knowing the technology; 2. knowing yourself; and 3. other ways of knowing. Under the theme, Care and Care Work, the following subthemes emerged: 1. caring in context; 2. intentionality; 3. the in between; 4. quantum caring; 5. reciprocity; and 6. time and helping. The final theme identified is The Human-Environmental Relationship. Within this theme, the subthemes that emerged included: 1. chaos; and 2. order.

The identified themes were checked and revised and checked again until the investigator felt reasonably certain saturation had occurred. This circular process, where interpretation of the text leads to further interpretation, is referred to by Taylor (1979) as the "hermeneutical circle". An example of this saturation process occurred when refining the clusters: (1) Chaos, Uncertainty, and Complexity; and (2) Order and Structure. During the study, it was evident that the participants held an affinity to the emergency environment. Many behaviours suggested that the participants were at times oblivious to the erupted chaos around them. The transcripts often contained reference to situations or dialogue that reflected the connectedness with their

environment. This revelation lead the investigator to ask many questions during the interview that would help to understand this emerging relationship. The participants were asked to discuss the physical environment as well as how they related to the emotional environment. It became apparent that the participants linked structure and chaos together. Chaos could be controlled by structuring the environment. As the uncertainty and complexity within the environment increased, so did the participants' need for structure and control. After much deliberation, the final result was the development of a theme entitled "The Human-Environment Relationship".

Establishing Rigor in the Study

Lincoln and Guba (1985) describe issues related to trustworthiness under four criteria that are used to establish tests of rigor in qualitative research: (1) truth value; (2) applicability; (3) consistency; and (4) neutrality. These factors will be discussed individually as they relate to the study.

Truth Value

The truth value of a qualitative investigation resides in the discovery of the human experiences as they are lived and perceived by the subject (Sandelowski, 1986). Therefore, truth is subject-oriented, not research defined. Lincoln and Guba (1985) suggest that credibility be the criterion against which truth value of qualitative research be evaluated. The credibility of the findings were enhanced because of the prolonged engagement the investigator had with the participants during data collection. This concentrated effort lead to rich description and interpretation of the participant's experiences. This rich translation was enhanced by application of multiple triangulation techniques. Data triangulation is the process of including multiple sources of data within the same study, focusing on the same phenomena (Mitchell, 1986). Data were collected with the Demographic Questionnaire, Participant Observation Method, and using an Open Ended Questionnaire. Data were collected on all different work shifts and on all different days of the week over a period of six months. A daily journal was also kept by the investigator which focused on self-report.

The journal included issues related to minimizing reactivity: ie., the participants' reaction to the presence of the researcher (Woods & Catanzaro, 1988). Many entries in the personal journal discussed encounters with the participant; intimate discussions of personal pain and disillusionment were shared between the participant and the researcher. The researcher used the time when writing in the journal to reflect on the interaction as it occurred in context. Many times the journal referenced the close relationship that had developed with each participant. A major threat to the truth value of the study could lie in the closeness of the researcher-participant relationship. Therefore, the researcher deliberately made attempts during the study to reflect on the influence the researcher had on the participant and vice versa.

Other strategies to ensure credibility included member checking (Hoffart, 1991). A member check procedure was used to ensure that the data reflected their work experiences. Two questions were asked to the participant: "What is your response to the data after reading it?" and, "Does my interpretation of the data make sense to

you?". Member check included a check of the raw data, a check of the preliminary findings and a check of the final report. The feedback was overwhelmingly positive which supports the accuracy and the credibility of the study's major findings.

Applicability

Lincoln and Guba (1985) suggest that fittingness be the criterion against which the applicability of the study be evaluated. A study meets the criterion of fittingness when its findings can "fit" into contexts outside the study situation and when its audience views its findings as meaningful and applicable in terms of their own experience (Lincoln and Guba, 1985).

To establish goodness of fit a panel of three experts was established. The purpose of the expert panel was to review the clusters, themes and subthemes for context. The experts were asked to judge questions related to appropriateness, accuracy and representativeness (Appendix J: Expert Panel Protocol). Each of the experts identified with the content and held the themes and subthemes in regard.

To enhance the construct validity or fittingness of the interview guide and the questionnaire, a pre-test was conducted on the same panel of experts. Some questions were not easily understood by the experts and were therefore revised.

Consistency

Lincoln and Guba (1985) propose that auditability be the criterion of rigor relating to the consistency of this study. A study is said to be auditable when another researcher can follow the decision trail used by the investigator. The expert panel was asked to comment on the "decision trail" produced by the researcher in this study. Each of the experts stated that they did not have difficulty establishing connections between the raw data and the final subthemes. Therefore, this testimony from the expert panel suggests with some degree of certainty that the resultant findings are a substantive representation of the data.

Phenomenology as a qualitative method emphasizes the uniqueness of human situations and the importance of the experiences that are not

necessarily accessible to validation. Variation in an experience, rather than identical repetition, is the essence of the phenomenological method. Therefore, due to the constant evolution of situation and circumstance, replicability is not guaranteed in this kind of research. However, another researcher could arrive at similar or comparable, but not contradictory, conclusions given the researcher's data, perspective and situation.

Neutrality

Neutrality refers to freedom of bias in the research process and product. Lincoln and Guba (1985) suggest that confirmability be the criterion for neutrality in qualitative research. Confirmability is achieved when truth value, auditability and applicability is established (Sandelowski, 1986).

Auditability was specifically achieved in the study by a description, explanation or justification of: 1. the researchers interest in the study; 2. how the researcher perceived the study; 3. the purpose of the study; 4. the articulation of the research questions; 5. how

participants came to be in the study; 6. the impact the researcher and the investigator had on one another; 7. how the data were collected; 8. how long data collection lasted; 9. the nature of the setting; 10. how data were analyzed; and 11. the specific techniques used to determine the truth value and the applicability.

Truth value and applicability were ensured by managing the three major threats to credibility and fittingness. The three major threats include: holistic fallacy, the elite bias, and "going native" (Sandelowski, 1986).

Ethical Considerations

The study was designed to protect the rights of the participants and the investigator at all times. Ethical approval was received by the Ethical Review Committee, School of Nursing, University of Manitoba and from the Health Sciences Centre Research Foundation.

The study did not involve a population at "risk". Risk can be considered as the possibility of psychological injury as well as physical and social injury that may occur as a result of participation (Diers, 1978). The use of

observation has the potential for the investigator to be privy to patient-nurse interactions that may pose a "risk" to the participant and the patient. This psychological risk factor was explored prior to the commencement of the research with colleagues. The consensus was that the degree of risk to the participant was considerably less than the value of the knowledge that might be obtained from the study. However, during the study, the clinical imperative was always the precedent over the research mandate.

Informed consent (Appendix C) was obtained. The investigator provided ethical information about the study (Appendix D), discussed the purpose of the study, the role of the investigator as an observer, and the role of the participant during scheduled meetings with each participant prior to entering the field work. This meeting also included a simple explanation of the data collection and the data analysis process. The participants were informed that they had control of the information that the investigator gathered since the participants were also engaged in the study. The participants were assured of confidentiality and anonymity at all times, and

emphasis was placed on their right to refuse or withdraw at anytime during the study.

The investigator withdrew from observing and recording any situation at the participants' request. Further, the investigator withdrew from observing any situation that may have been construed as covert participation. For example, listening to a confidential conversation without the patient being aware. The investigator's knowledge and understanding of sensitive situations in this clinical area was helpful in facilitating this process.

The investigator agreed not to withhold expertise when a patient was at risk in order to avoid contamination of the participants' perception. However, during the field work, life threatening situations did not occur when a nurse was not available and all nurses appeared to understand my role as a researcher. The investigator believes that she is obligated by prima facie duty of fidelity to the patient, whether or not such a duty is made explicit. Therefore, if the investigator ever felt a patient was at risk, all efforts were made to communicate

this to the participant or another staff member. At no time was care withheld.

The participants were assured that neither their identity nor any of their activity will be published without their consent. A code letter was assigned. The names, transcribed text and text analogue, tape recorded data were always kept safe; all data was destroyed upon completion of the study. The transcriptions and taped interviews were available to the thesis committee and three experts only.

The participants' permission for publication after the study's conclusion is sought in the consent form. The names, situations and setting will be altered to maintain anonymity without significantly changing the data. In summary, no adverse effects occurred for the participants, patients, other staff members or the investigator during the course of the study.

Limitations of the Study

The major limitation of the study relates to the sample population. All the six participants were volunteers in the study. Their

desire to participate may have reflected their positive nature or their willingness to explore emergency nursing's clinical practice. Self-selection volunteers may represent only a segment of the population any may not be representative or typical. It may be postulated that emergency nurses with lesser interest may have interpreted their role differently than did the six participants. Further, the small number of the emergency nurses in the study limits the generalizability of the findings to other emergency nurses in other settings. However, the findings had an "emergent fit" (Morse, 1989) within the experience of expert panel who were outside the immediate local context of the research. Thus, these possible limitations are not legitimate concerns.

It may be argued that the study's purpose was to interpret the lived experience of the emergency nurse. Methods of data analysis that fragment the lived experience may distort that which it seeks to describe. Furthermore, phenomenologists contend that each lived experience is unique and had meaning for the person living it. It may or may not fit others' experience, but this does not make the experience

less valid. Colaizzi (1978) suggests that the validity of phenomenologic research be measured with its own aim as the standard. He maintains that phenomenologic data are valid to the extent that the field work and/or interview has tapped the participant's experience of a phenomenon. Such data are not examined for accuracy but are viewed within the context of the participants' experience as expressions of their singular view of the world.

The participants were very experienced nurses in the field of emergency nursing with the average experience being 12 years and the range was from 5 - 22 years. Another limitation may include not having access to study the novice versus the very experienced. It also may be postulated that those nurses with less experience may have interpreted their experiences differently than did the six participants.

It may be argued that the emergency nurses in the study performed differently when they were being observed. Herein, they may have tried to demonstrate what they considered to be ideal clinical practice thus the findings may not be representative of the emergency nurses' actual

practice. Berg (1989) states that such an effect of observation is short lived; this was the experience of investigator during the study.

Other areas of the study that need to be mentioned include issues that arose while the researcher was in the field collecting data. The first issue developed early during the field experience. The researcher discovered that one could not participate in the care of patients and still observe the participant's behaviour to the extent that the study required. The researcher made a conscious decision to act as an observer only. The problem was complicated to some degree by the fact that the researcher is an expert in the area of emergency nursing. The participants were clear about the role of the researcher but others, such as doctors, nurses, and nurses aides, would ask advice about patient care. However, the role of non-participation and non-intervention was assumed. This was especially difficult when staff knew that the researcher was very able to add to decision-making exercises. Thus, the researcher expended a tremendous amount of emotional energy in accepting questionable situations that occurred periodically.

Nurses are not accustomed to being observed. At times the participants would ask if what they were doing was correct. This was difficult to deal with from an investigative stance. The researcher reinforced that she was not there to evaluate, but to observe and interpret. The researcher tried to create an atmosphere of openness. Consequently, the participants stated that it took a short amount of time to incorporate the researcher's presence. The participants' comments reflect this process. "At first I was aware of your presence, but that soon disappeared when we got really busy". "The time that you were with me was enjoyable and it helped me realize what I did all day". "At first, I was uptight about you sitting there making notes on everything, but after a while I didn't really realize if you were there or not". From a researcher's point of view, the participants' transition was desirable but it was difficult for the researcher to accustomize herself to being ignored.

Another consideration to be worked through during the data collection phase of the study was which portions of the participant's day/shift would, on one hand, yield the most

fruitful observations and, on the other, be reasonable in terms of the researcher's energy and endurance. The researcher became very flexible and chose experiences during all shifts and all times of the week.

The original time frame was to include three months for total data collection. Each participant would be followed for three eight hour shifts. The researcher found that to observe the participant in their busy environment for more than four hours was exhausting. Short time frames helped to keep the researcher relatively fresh and engaged. Shortening each observational experience lead to lengthening the total time of the study. The time frame stretched from three months in the field to six.

A relative problem was boredom. Periods of boredom were a problem in this study, as is common in observation experiences (Glaser & Strauss, 1966). When boredom was experienced, the researcher took intermittent breaks or worked on other projects, away from the field.

Observer or nurse? This question was a continual one for the researcher. The nature of

the emergency environment returned the researcher to this dilemma constantly. The patient and family would seek care from the researcher mainly because of presence and the perception that the researcher was a part of the health care team. Some patients chose the researcher to confide in and to tell their story. At times this was a deterrent to the pure observational experience and consequently some observations were missed.

Occasionally, patients' conditions became unstable and the investigator was the first available person. One time, a patient complained of sudden, sharp chest pain with shortness of breath. The researcher was the only one within hearing distance. The researcher summoned the participant, who responded immediately and appropriately; the patient was experiencing further pulmonary emboli. As a result of this experience and other which caused value conflict, the researcher allowed some modification in the direction of humaneness. Kindness and occasionally lending a helping hand did much to relieve the tensions within the investigator, and far outweighed the possibility of threat to contaminating the data.

Nurses who were not in the study also sought out the researcher to confide in about their worklife and their feelings. Sometimes this made the researcher uncomfortable, although at times it was hard to say why. The researcher felt guilty struggling between the human inclination to be friendly and the research protocol for observing. The researcher dealt with this by again taking short breaks when the discomfort affected observation or the researcher's ability to interpret the situation clearly.

Over time, the researcher became more and more sensitive to the participants and the environment under observation. The investigator felt she was seeing the nurses with a heightened awareness and humaneness. This warm appreciation pervades the entire research experience.

Summary

This chapter has outlined the methods of data collection and analysis. It has explored some of the issues which occurred during the fieldwork study, and has identified limitations of the research. The phenomenological method emphasizes the importance of the meaning of each situation.

This chapter has paid tribute to the lived experience and the meaning embedded within each observation. The participants shared the process and reviewed the findings with the researcher. The participants validated the findings and were satisfied with the researchers interpretations. It is this interpretation which is presented in the following chapters.

CHAPTER FOUR

Presentation of the Findings

The Demographic Nature of Clinical Practice

The information contained in this chapter is divided into two sections. The first section of this chapter will discuss the biographical and opinion variables of the participants as obtained from a structured questionnaire (Appendix B). The second section will attempt to paint real pictures of the lived experience of the emergency nurse using exemplar, narratives and actual quotes from the transcribed text and text analogue.

The data described in the following section is taken from the questionnaire entitled, Demographic Questionnaire (Appendix B). Each participant completed the questionnaire prior to the fieldwork experience.

The participants ranged in age between 32 and 43 years; the mean age being 37 years. One male and five females made up the composite population studied. All six graduates were prepared at a diploma level, graduating in 1970 through 1982. All of the participants had worked

in an emergency department for more than three years; half had practiced in emergency nursing for more than twelve years. Five participants held a certificate in emergency nursing, and one of the five held a certificate in emergency and critical care nursing. One participant had not pursued specialty education. Five of the six participants were staff nurses and one was an assistant head nurse. All participants worked in the adult emergency department at the Health Sciences Centre, where one person was part-time, the other five were full time.

When asked what area within the department they enjoyed working the most, the four stated that they enjoyed "Triage", two stated that they preferred to work in the resuscitation room. All the participants stated that they did not enjoy working in the "Observation Unit".

The participants' responses regarding the "most challenging facet of patient care", varied. The responses ranged from: "stabilizing the critically ill; dealing with complex problems in all domains; caring for patients with psychiatric problems; helping families with

complex social problems, i.e.,: domestic violence or sexual assault".

The least challenging facet of their job was reported as: the technical skills; caring for stable patients in observation; dealing with intoxicated, combative, abusive patients; and caring for patients with minor problems.

On a typical shift, the participants stated that they could be responsible for numerous patients. However, it was dependent on the area in the department:

"Big Side" between 10-15 per shift;
"Small Side" between 25-30 per shift;
"Triage" between 40-60 in four hours;

They reported that their case load at any one time, area dependent, was between 5 to 8 patients of varied acuity levels.

The participants stated that on an eight hour shift, the average number of phone calls the nurses could answer was approximately 21. However, at the triage desk, the group reported that the nurse could answer more than thirty calls during the four-hour rotation.

The participants' perception of their patients' characteristics also varied. Fifty percent said the average age of the patient was early 30's; the others felt the average age was around sixty. The participants believed that they generally saw more males than females and the most prevalent ethnic group cared for was the Aboriginal People. The participants' description of their typical patient was of a person who has at least one chronic disease and has multiple health problems, who is acutely ill, but not necessarily life threatened.

The participants reported that a typical day for them would include approximately: 50% of their time spent in direct patient care activities; 10% documenting patient care; 10% trouble-shooting system problems; 15% coordinating department and patient activities; 10% in consultation with other health care workers; and 5% analyzing data and interpretation of the results to patients and families. The participants stated that little time was spent in the teaching-coaching role with patients and families or in continuing education activities for themselves.

This data were gathered from a written questionnaire prior to engaging in fieldwork with each participant. Upon reflection of the collected data, from the Demographic Questionnaire, fieldwork, and the open ended interview, there are some misconceptions. The perceptions of others leave room for questioning. However, the participant's reality is most significant in qualitative research. Hence, the following section interprets the lived experience of six emergency nurses in context and will bring to the fore their reality.

In the lived experience of emergency nurses, there are a multitude of factors which determine and influence the nature of decision making in their practice. Although this section will focus on the decision making processes of the participants, it also includes discussion of the contextual variable of caring which significantly structured the decisions of the emergency nurses. Caring, in the emergency setting was expanded to include caring for and about the environment. This caring in turn affected the decisions made in their practice as emergency nurses.

The Context of Clinical Practice

Within this chapter the findings related to three themes will be discussed. The themes include: Knowing; Caring and Care Work; and The Human-Environment Relationship. These themes expand and build on the research questions by keeping the material collected as whole and true as possible to the participants' experience.

The decision making process of the emergency nurses was rapid, complex and often difficult to decipher in the spontaneous and randomized activity within the emergency department. Consequently, any discussion of decision-making with emergency nurses must entail a description of those factors which ultimately determine how decisions are made. This section will reveal how nurses in emergency build and maintain knowledge in their practice in order to make practice decisions; ie, "knowing". Caring will be discussed as a contextual variable which interacts with this decision-making process. "Care work" will be described as the decisions which result from within the caring context. The final theme, "Human-Environment Relationship", demonstrates how connected the emergency nurses are to their environment. This theme helps to

identify how emergency nurses create order in their decisions involving knowing, caring and care work within a chaotic environment. (See Figure I for schematic representation of the relationship of these categories.)

Knowing

Philosophers of science, Kuhn (1970) and Polanyi (1958), wrote that "knowing that" and "knowing how" are different kinds of knowledge. By establishing causal relationships between events, scientists come to "know that". "Knowing how is knowledge gained through directly practicing skills and taking up cultural practices. Many skills are acquired without formal explanations or without formal laws to capture the principles that make the skill possible" (Benner, 1984, p. 297).

A wealth of skilled knowledge was found to be embedded in the practice and the "know-how" of the emergency nurse. Skilled knowledge is unlike theoretical knowledge in that it relies on development of perceptual awareness that will focus on relevant information from irrelevant, grasps a situation as a whole rather than a series of tasks, and accomplishes this rapidly and

without incremental linear analysis of isolated bits of information (Benner and Wrubel, 1982).

Therefore, the findings relating to the theme, "Knowing" extended the practical knowledge of the discipline, specifically emergency nursing, through this scientific investigation. Subthemes add clarity to the main theme of Knowing. They include:

1. Knowing the environment: Patient, Family, System, Subculture, Technology;
2. Knowing the Self;
3. Other Ways of Knowing.

Knowing the Patient.

During observation of six emergency nurses' skilled performance, one element became very clear: knowing the patient was their prime concern. Gathering information was constant and concentrated. They gathered data initially to familiarize and then they selectively and systematically narrowed the data field. This sub-theme dramatically represents the participants perception of "needing to know". They needed to know about the patients' level of acuity, their stability or instability, and their direct threat

to life. In every situation observed, the participants would consult the chart multiple times. They searched for old data, data that may suggest resolution or an evolving crisis. They constantly refined and maintained existing data or verified data that they may have written or asked about minutes before. Data gathering included searching bits and facts from family, other nurses, doctors, other workers, and other departments. One participant stated that "in emergency you are constantly bombarded with information. There is always something you want to check up on regarding your patient's condition. I find I'm constantly looking to see if there is any change."

The participants were constantly sharing information via formal means, the report, or informally during a break. Simple methods were used to communicate the most sophisticated information. For example, a metallic board became the playing field for all the patients in the department, as well as tracking the patient throughout their emergency experience. The patient's story was told repeatedly by the participants. The stories centred around the pertinent information from the practitioner's

perspective. Information flowed from one nurse to another in constant motion.

The participants were continually narrowing the possibilities. They were focused and rapidly made shifts in mental set. They had the ability to move from one set of data to another to another and back again. Not only did they seem to have a grasp of the whole experience for the patient, but they seemed to have an understanding of the department's condition. This phenomena was best observed at the triage area, where one minute the participant was assessing a person who had a "cold" for a day and the next minute to a person who had vague symptoms and who was very ill.

This exemplar demonstrates how quickly the participants had to shift mental sets, as well as the constant battery of data that the participants assimilated. The entire scenario took thirty two minutes.

The participant was talking with psychiatry resident about a bed placement for the patient in the "disturbed room" (See Appendix I). The disturbed room is adjacent to the triage desk.

Psych (PS): "looks like she'll be with us for awhile."
Participant (PR): I guess so ... no beds on PI3" (the locked psychiatric unit).
"It's the only safe place for her". "Phone admitting and ask them to search for a bed for one of the other patients over there, or maybe Selkirk would take this patient." "We can't just leave her here".

Older lady to triage area, participant stops the discussion and faces the patient.
Patient (PT): "I had a stroke a few months ago and I feel funny just like last time".
PR: Got the lady a chair.
"Can you describe how you feel?"

At the same time an MD came to the desk and interrupted the participant asking for a pair of gloves. The participant continued interviewing the patient and leaned over and pulled a pair of gloves from under the desk and handed them to the MD.

The participant completed the triage history and told the aid to call the treatment area. The lady was being taken down immediately.

The participant returned and when asked why she decided to send this patient to the emergency side and not Primary Health Care and why so quickly, she replied, "PR: She was really tachy" (fast heart rate) when I took her pulse and she was feeling jittery. She may have an arrhythmia (abnormal heart beat) and her history

indicated that she has high blood pressure. I just felt something was going on".

Another two people arrived at the desk requesting to see a patient that was admitted the night before. The participant gave them directions to central admitting.

Ambulance personnel appeared with a native gentleman and his interpreter. The participant knew about him. She interviewed the man through the interpreter and proceeded to call down to the main treatment area and paged the specialty service who was expecting the patient. She then took the patient to the treatment area.

On return there were three patients lined up needing to be triaged.

She observed one patient had been battered about the face and went to him first. She asked him what had happened and if he had been knocked out. The answer was negative and she proceeded to do a short version of a neurological check. The man was not very cooperative and said, "yes", to everything. She assessed he was stable, gave him instructions to see the typist, and went on to the next patient.

She triaged a woman for a sore ankle and an older woman who had fallen and injured her fingers and another who was complaining of a vaginal discharge when she went to the bathroom.

The psychiatrist returned and stated that the service had to send one patient to Selkirk and then the waiting patient could be admitted to PI3. The participant asked how long that would be and was told four or five hours.

The psychiatric resident told the triage nurse that the patient needed some Dilantin.

The participant told me she was responsible for the patient while in disturbed. She stated, "This is crazy I don't even know this patient and we don't know how long she'll be here. Four hours will be seven."

The participant went to the patient. An argument ensued about the patient's need to take the drug since she had not taken her medication that day and needed to take it or she would seizure. The patient called the participant a "bitch" and took the medication.

Six firemen all marched into the department at the same time. One of them had a laceration to his forearm. The participant assessed him and placed a temporary bandage on the wound and sent him et. al to the waiting room.

At the same time as she finished with the fireman another man came to the triage area wanting an HIV test. He stated that he had poked himself on a needle a week ago and now his leg was sore and he was worried about AIDS. The participant was very responsive to the man and explained that he would be seen in PHC.

During this scenario, the participant used a variety of strategies to glean the information. The majority of the time, participants were focused and goal-directed when gathering information. Systems assessment and the medical model were used to the exclusion of all other methods. When one participant was asked why she chose to use the systems approach, she stated, "Because it works, it's fast, ordered, and makes sense to me".

All of the participants had interpersonal skills which included good eye contact, a calm reassuring voice, pleasant professional nature and a matter-of-fact manner. Three of the participants used humour selectively as one of their means to communicate. One participant was particularly skilled at gathering information from uncooperative patients. She was respectful but realistic. She used language the patient could understand, including at times the vernacular, and addressed their needs first. This participant stated, "I feel that it is important to recognize and match my (interview) style with the life circumstance of each of my patients".

In brief encounters with patients, the participants gathered necessary data rapidly and in a time limited environment. Knowing as much as possible about each patient in a short period of time and knowing much about numerous situations simultaneously was consistent between the participants. One participant stated, "It is really important to know as much as possible about the patient ... it helps to put all the pieces together and keep things under control". Another participant was emphatic about the importance of "keeping on top of the information flow", especially when you're in charge. "If you aren't good at making fast decisions and feeling good about them, you have a hard time controlling the department and all hell can break loose."

The nurses under study gathered the information from patients usually in a fragmented manner due to constant interruptions, disruptions, and multiple contextual variables. The impact that the contextual variables had on the gathering, monitoring, maintaining, and interpreting data was profound. The variables included a noise factor that ranged between a jet aircraft engine to eerie silence. The noises described in the fieldnotes consisted of human

voices, phones ringing, movement, alarms, monitors, computers, pumps, ventilators, typewriters, constant public address messages, patients crying, screaming, yelling, and families grieving.

When gathering information, the participants had to cope with the flow of traffic because the movement of people and equipment within the department was continual. Patients moving from one cubical to another or from one area to another, nurses moving from patient to patient, doctors moving in between the nurses and patients, and auxiliary personnel moving equipment and paper among the crowd. The participants also had to deal with extraneous personnel moving around the patient, the cubical, and/or the area that they worked.

All of the participants liked the open concept of the department. However, they expressed great concern about the cramped, small, limiting work area. The stretchers are cumbersome and take up the majority of room in each cubical. The nurses must interact with the patient, dodging monitors, oxygen and suction lines, supplies,

carts and most often other people crammed into a very small area (See Appendix I).

The participant's perspective of patient confidentiality and the issue of privacy when gathering information consisted of problems centred around the cramped space. This perspective became clear when the researcher observed the nature of the participants' data gathering methods. Stretchers in the treatment areas are approximately three feet apart. The triage area is small; approximately five by eleven feet. The patients' responses and the participants' questions are audible outside the boundary of the curtain or beyond the triage desk.

Interactions between patients and the participants were situational. Privacy and confidentiality were not always possible. However, the participants were concerned about information "spilling out of the cubicle" or "into the waiting room". They expressed the view that to change this situation was beyond their control. This was acknowledged as "just being a part of emergency and part of the practice here".

The priorities of the data gathering process were to get the information in a fast paced, focused, goal directed manner and move onto the next priority. The best example of data gathered in this context was when the participants were triaging patients. At triage, participants were faced with making rapid decisions based on limited data and limited time. Most decisions were made in less than 90 seconds.

Be it at triage or in the treatment areas, the participants stated that they made decisions based on their knowledge about the patient and the degree of threat the patient was experiencing. From the analysis of the text and text analogue, four categories emerged: Knowing with time, knowing without time, not knowing with time, and not knowing without time. One participant stated,

"When you don't know anything about the patient and they are dying in front of you, at times the situation can become chaotic. Sometimes, no one knows anything exactly (about the patient). The ambulance guys pick them up and no one knows anything about the patient or what happened to him. So you have to wonder why they are unconscious ... is it an overdose, is it a head injury, or is it diabetic coma? This makes the

situation very iffy until you narrow down the possibilities and become more certain of the problem."

Knowing the Family.

The researcher observed that most often the participant did not interact with a family member during the patient's stay in emergency. In a time and interaction analysis done while observing each participant, it was found that less than 4% of the participants' time was spent interacting with patient's family. Different types of interactions held with the family included giving information about the patient's condition, giving directions to find their family member, getting information from the family member about the patient's physical condition, supportive conversation for a family's emotional state, and small talk about social events.

Knowing the System.

Knowing about the system was evidenced by understanding the policies and procedures of the hospital and the emergency department, understanding the RN's role and function, knowing the structure and process within the emergency,

and "having a feel for the pulse of the place". This subtheme seemed to be dependent on learning the job. The participants expressed that the work environment is so complex that to understand referral systems, admitting procedures, charting procedures, care of complex patient groups, and the interface between emergency and the community agencies takes time. It was notable that all of the participants had the ability to juggle and integrate multiple requests and to understand multiple departmental variables without losing important information or missing significant needs.

The participants in the study made it their business to know everything that was going on with their patients. They became a backup system for the system, ensuring safe and reasonable care. They were in a position to spot error or omission and were especially alert during another's learning phase, be it another nurse or a medical person.

It was an expectation of the participants to act as a gateway to the system within. How quickly a patient is to be seen by a physician depends on the nurse. The nurse is the

first to assess the patient's situation and bring it to the attention of the MD and others. The participants were skilled at communicating the patient's status and prioritizing their level of acuity. Hence, the urgency of the patient's needs were clear. The participants also talked about knowing when to be aggressive with the doctors. Aggression seemed to always be on behalf of the patient and their inherent rights.

Interhospital politics was a major barrier expressed by all of the participants. The nurses in the study devoted much time in "moving the system". One subject stated, "not only do I have to make decisions about our patients and the emergency department, but I have to make the ward's decisions too". Admitting patients seemed to be energy depleting since the planning for this extended past the emergency department..

The participants expressed and it was observed that it was necessary for the nurse at the triage desk to have some knowledge of the patients being transferred or referred to the hospital from outside. Not only did the triage nurse have to have an understanding of the emergency department's status at any given time,

but it was expected that triage was responsible for patients who were scheduled to arrive from out of hospital as well.

It was observed that the triage area attracted everyone. Participants expressed that triage was like a central dispatch. People's needs at triage varied, from people asking questions about patients who were admitted, not necessarily via emergency, to the police inquiring about a deceased patient's belongings. At the triage desk, the participants had to have knowledge of the total picture in order to be effective. They called it "system's savvy".

Knowing the Technological Environment.

The six skilled participants in the study stressed the importance of knowing the technology within the department. They stated that it is imperative to understand and be able to use sophisticated technology like cardiac monitors, respirators, central venous and arterial lines, intravenous medication pumps, bloodwarmers, cardioversion, and defibrillating equipment. On observation, it was apparent that all the

participants were skilled in the use of all of the technologies mentioned above and more.

What was expressed as being as important as knowing how to use the technology was knowing where to find the equipment. On observation it was found that broken or old equipment, equipment that was not where it should be, or equipment not restocked, created a great deal of stress for the participants, especially if the equipment was necessary for the care of critically ill patients. On the average it took the participants fifteen minutes of a four hour block of time to look for equipment.

The participants expressed that they must understand the realm of medical diagnosis in order to function effectively and efficiently. One subject stated, "I have to be able to distinguish the difference between angina and a myocardial infarction since I am the one to alert the physician of the patient's urgency. If I don't know the difference it will put the patient at risk." Another participant stated, "When you are triaging, the patient and the hospital is relying on you. The patient trusts that you understand their problem and the hospital trusts

that you can decide if the patient is really sick and needs help quickly or can they wait".

Knowing the Subculture.

The participants expressed that emergency was a very different place to work from any other area they had worked previously. The major differences they stated were the variety of patients, the scope of practice, and the fast paced nature that exists in an emergency department. Three of the participants expressed that the peer pressure was forceful. They stated that there was an unwritten policy to keep up the pace, to keep the patients moving, and to "try and clear" the department. One participant stated, "Anyone who doesn't pull their load won't last long down there".

An interesting phenomenon was the unique language that surfaced. While observing, it was evident that only people within this subculture could understand certain situations. A good example is the "99". During a cardiopulmonary arrest, a "99", the abbreviations and code like linguistics are bountiful. The following exemplar illustrates this occurrence clearly. The

participant was discussing the previous evening's activities.

Nurse: "Last night we had a transfer from Brandon. A dissecting aortic aneurysm."

Participant: "I thought she was a query."

Nurse: "No, this woman looked like an aneurysm ... I thought anytime she would arrest on us. She was in resus (resuscitation) far too long because of no beds in ICU" (intensive care unit).

Participant: "They had a crazy night in the hospital I guess, two 25's (respiratory arrest) at the same time on different wards. I hope it stays quiet tonight, although there is a full moon."

Nurse: "Also, it's welfare cheque day."

Many specific terms like these illustrated above were used and understood among the staff. Further, it was apparent that the triage nurse must understand the lingo of the ambulance phone since the abbreviations have

meaning. Some messages invoked a startle-like response, while others were received calmly. A typical exchange would sound something like: "The ambulance call: "66, 66, we have a red romeo 9 in 3". "66, 66, over" ... Silence ... 66, out". The participant would call to the treatment area and/or tell the aide to expect a "Red Romeo 9 in 3." or a "Green Charlie 3 in 10".

Each participant had stories. Some were sad, others horrifying and some were very funny. The participants told their stories to the researcher and to other staff. One participant said, " ... not many people, let's say at a party, want to hear about the gory details. I have learned over the years that what we may think is funny or acceptable to talk about here, lay people many not understand".

Some stories were so painful that the researcher was asked not to divulge them in the research report. At times, participants were overwhelmed by the memories. They cried and became very upset, even though the event had happened four to eight years before.

The participants stated that talking about the "war stories" and their experiences helped to "put sanity" into situations that did not make sense. The participants said that this activity was a stress releaser. One participant stated, "Talking about a particular patient or situation is helpful, especially if it really bothers you. Sometimes it can made the difference. It helps me carry on here and face the next problem competently".

Knowing the Self.

Knowing the self was a major subtheme that all the participants expressed as important. They stated that working in the emergency department helped them become more aware of their personal strengths and limitations. One participant stated, "Confronting one's own prejudices and allowing for people's differences is important if you want to work in emergency". Another expressed,

"I have come to grips with the fact that I can't change the world ... I think I am more aware now of my own lack of knowledge, more understanding of the whole picture

now. Sometimes it's just a feeling of not being able to really help in a meaningful way usually because of economic or social barriers. But over time I've changed, my goals have changed... It's less telling people what they should do and more of helping them make their own decisions. My goal is not to give people too much of the bottom line. Now I try to help them hang onto something and given them as much information as possible".

Another participant stated, "It took me a long time to realize there were definite limits to my own energy. There are some things that you may have an impact on and other things like poverty, racism, and violence I'm not going to change overnight or in my life time".

Another participant shared how she creates a balance in her life, "My best move was to have a child and go part-time. Full-time I was starting to burn out. I know I am not going to be there day after day and so going to work now is

marvelous. After the shift is over, I come home to my world with my kids and husband and it feels great".

The value of life was held as sacred for the participants. Each one expressed that what they had experienced at work profoundly influenced the way they lived their lives. They told the researcher the following: "Life is a fragile commodity."; "Since I have worked in the emergency I never leave the house mad at my husband or kids."; "I always worry about my kids when they are out at a party."; "When I have had a particularly bad day I go home to my husband, that is where I feel safe".

Other Ways of Knowing

Intuitive Ways of Knowing.

The interviews and observations provide rich examples of alternative ways of perceiving knowledge. Intuitive judgment appeared to be a common attribute, as the participants made statements like they "just knew" or "had a sense" of a situation.

All six participants seemed to identify the whole in situations especially in situations of great uncertainty. One participant stated,

"It takes time to know what to expect. You can learn about the theory all you want, but the best way to know it is to do it. I don't know why I can tell if a patient is going sour (getting worse) before his vital signs change, but I can. Time and experience gives you that feeling."

Another participant told a story that illustrates this intuitive process.

"This patient was sent in from up north. He had a stroke earlier in the week. He was to be seen by medicine service before he was to be admitted. When I triaged him I somehow knew that something was wrong. Even though I wasn't going to be caring for him in the department, I felt uneasy. On a break I looked in on him. He

looked really strange and beet red. His wife told me he was complaining of dizziness. I went to find his nurse. She told me his last set of vital signs were OK but she would see him right away. I went to coffee. A few minutes later a 99 (code for cardiac arrest) was called. It was that man."

This sense of salience was demonstrated often during the researcher's observational experience with the participants. Each of the participants had this ability to intuitively formulate judgments based on a sense and a feeling. Two participants trusted this intuition to a greater degree than the others. When asked why, they stated that over the years you grow to trust your "gut". One participant stated, "Too many times I didn't listen to what my gut was telling me and I regret the consequences".

Often the participants referred to those situations when a patient does not respond to treatments like most do. One participant told the researcher,

" ... a new grad has a rough time knowing what is an appropriate way to respond to different drugs or treatment regimes. With time you get a feel for the way a patient should sound or look. It's hard to explain to a new nurse what an asthmatic looks like when you know they have responded to the Ventalin treatment."

Similarity recognition seemed to explain this type of knowing for the participants. One participant said that sometimes it is the "fuzzy" resemblance, even though the patients are completely different, that "cues you".

One participant believed her common sense helps her deal with situations that are uncertain. She states that she is able to grasp a situation and understand the patient's vulnerability. The participant told a story that reflects her common sense understanding and approach.

"Most times I am able to get into the patient's shoes. I remember caring for this older lady whose husband had just died of cancer. She told me that she thought her problems were a result of all the stress she had faced since his death. I listened for some time to everything she had experienced since and said, "You have been through a lot". With that she started to cry and said she couldn't cope with anything more. I waited for a while and then told her I was taking control. I let her know that she didn't have to worry and that I was going to take care of her now and that she could let go a little and rest. I felt that she needed to hear that she didn't have to be so brave and that someone else would shoulder some responsibility for her well-being. I felt that she was asking for permission to give up some control and that she didn't have any energy left at that point to cope. I read

it in her eyes and heard it in her voice. She didn't come out and say it, I just knew that was what she was asking for".

Significant Knowing.

Allen (1990) speaks of significant knowing, "that knowing which moves a person to the core, instructs a person, and enables a person to transcend the limits of everyday concern". Heidegger (1971), wrote that this way of dwelling in the world is one of care that "honors the sacredness of others and the mystery of human existence in time and space".

The participants exemplify this understanding of the world. They recognize that the patient are individual and have the right to live their lives their own way even if it is destructive. This caused the participants frustration but they all expressed that the patients had a right to be in the world the way they saw fit.

Some situations touched participants deeply. One participant stated that she felt

great pain for abused women. Another participant expressed a sense of sadness for the urban native. Still another participant felt great sorrow for families who suffer sudden death of their child. During the interview, all participants told the researcher at least one story of how a clinical situation changed the way they understood clinical practice. Every story as a reflection of "significant knowing".

"There was this young girl, who was travelling with her boyfriend. They were in a bad car accident and her feet hit the dash. He was driving. Her feet were at her face and they had to cut her from the car ...(Pausing to gain control of herself) oh, god. It was awful. She was so serious ... Anyway, I find those situations the worst part of the job ... I can't imagine how horrible that would be. The family came in ... the families are the hardest part to deal with. You're doing all you can for the patient, you're doing something for them, but the families have such a load

and a long wait in that room (bereaved room). You should see the mothers' faces ... oh, it's awful".

In summary, the researcher found that most cognitive inferences appear to occur spontaneously as the participants dealt with multiple situations and data simultaneously. Data searches were endless and did not end until the patient was transferred out of the department or died. Problem solving was not linear, as the participants engaged in a continuous assessment and intervention scenario with patients who were unstable. Decisions were made rapidly and in uncertain, ambiguous, and complex conditions. Bounded rationality appears to exist within the subculture of emergency nursing as language, beliefs, and value systems were present and unique. Finally, other ways of knowing about a phenomena were present in the clinical practice of the emergency nurses studied. Intuitive judgment and significant knowing was found to be common among the participants.

The participants' commitment to knowing was significant. This commitment was consistent among all of the participants even when the

environment became chaotic. The theme of caring and care work emerged from this observation and became a major contextual variable to consider when discussing emergency nursing practice.

Caring and Care Work

"I try to get close enough to them (the patient) so they see me as a human being."

This section of the chapter will actualize the thesis that caring is central to human expertise, to curing and to healing (Benner and Wrubel, 1989). The participants demonstrated that they provide care for people in the midst of health, happiness, pain, loss, fear, disfigurement, grief and death on a front line basis. One participant stated that the only place she would want to be is "by the patient's side". The following exemplars, narratives and quotes will help to verify that care is the essence and central, unifying and dominant domain to characterize (emergency) nursing (Leininger, 1984).

Caring in Context: The Human Condition

"One night a young girl came in ... she was a bad multiple trauma. She was in an accident with a trailer and I think she had every bone in her body broken. This girl was very unstable and needed to get up fast to the O.R. (operating room). I knew that her family was out in the bereaved room and I wanted to get them in before she went up. They needed to get in at least once before she was taken away. They went in with me ... they were a mess ... they needed my support. In my experience often the patient will go to the operating room and they never come out, and the family never gets to say good-bye. One thing that I believe I have to do is get the family in to see them one more time in case that it is the last. It gives them the chance to say good-bye ... she died in the O.R. that night."

The participants told their stories of tragedy, of sorrow and despair. They spoke of violence, poverty, mutilation, physical pain and emotional suffering, death and grief, hopelessness in life situations and the futility of life's event. All the participants had experienced many difficult situations as emergency nurses. They expressed the challenges that the emergency nurse faces when constantly exposed to the worst of the human condition. The following exemplar describes this phenomena.

Exemplar

It was 1040 in the evening, the suture room was jammed with patients and staff. The participant was busy dressing one man's foot. While she worked, she talked with the man about immunizations. When she was cleaning the wound, she found two more huge lacerations that the MD had missed while suturing. She stated later, "when I was cleaning his toe his whole digit flapped up. I almost hit the floor. I just hate things like that ... disassociated parts"

This scenario was not uncommon for the participants to experience during a day's work. Many times during the researcher's observational experience, real life drama was played out on a real stage.

The researcher observed the participants interacting with the patients in order to gather data, interpret information, interpret kinds of pain, give emotional and informational support, help them have more control over uncontrolled situations, provide comfort, teach, and coach. The participants expressed the importance of "being there" for the patient. This is illustrated in the following exemplars.

This exemplar illustrates the participants sensitivity and compassion for a person in pain.

Exemplar

It was quiet in the department when the participant started her shift. All the stretchers were full but the pace was slower. The participant asked the charge nurse, "Who is that guy with the leg ... he looks like he is in a lot of pain?". The participant was told that he was brought into the emergency after being ejected out of a vehicle moving about 20 miles per hour. The participant went over to the patient, on the way grabbed pillow and began to talk to him quietly. The man was rolling around on the stretcher moaning and groaning and clutching his upper leg. The patient began to cry and whimper like a wounded animal. She just stood there for a few seconds and then proceeded to let the air out of the temporary splint, constantly talking to and coaching the patient through this painful episode. The participant applied a half leg splint and secured the leg position. She touched his arm and told him that it should begin to feel better. She bent down closer so they were face to face. The participant told him she was going to get him something for his pain and that she would be right back. The patient seemed to calm down. His whimpering stopped.

The next two exemplars illustrates empathy and the importance of "being there".

Exemplar

The participant speaking to the researcher: "It was the other night, we were busy and I was at triage. A woman was brought in by police. She was bleeding from the mouth and nose. She was crying and saying over and over that it was her fault. I knew at once that she was a victim of domestic violence. I made sure that she didn't have to sit in the waiting room and directed her into the disturbed room away from the peering crowd. It's the people who are victims of violence who really bother me. Alcohol, poverty and the violence that results. Its mostly women that are victims. It seems so futile. The only thing that we can do for her is be here for her, even if it is the tenth time.

Exemplar

There was a girl, who was riding her bike on the highway and she got hit by a truck. She was a young woman and a student at the University. I remember her family so well. When they were told that she had a serious back injury, and she would probably only be able to move from the shoulders down, her mother started screaming and was hysterical. I spent hours with that family, between the parents and the patient just being there for them. It was one of the harder times in my career but also very satisfying. When they finally went to the ward, they thanked me and the staff for all we did. That was nice, we don't often her that.

The six participants said they were "tuned into" the needs of individual patients.

They stated on interview that central to being a "nurse" was to care in a non-judgmental manner, to care for the whole person. Foremost amongst the participants was that they saw themselves as the patient's advocate, regardless of the patient's station in life. The following exemplars are a reflection of these concepts.

Exemplar

My goals over the last five or six years have changed. I encourage patients to change their own lives and care for themselves, to take control. I have become so much more aware of social problems and how they relate to each patient's world. I feel I have more understanding of the whole picture. I used to believe that all people had to do was just pull up their socks and work hard but now I know that some things can not be changed overnight. I feel I can be helpful by trying to get into the patient's space. I try to help them problem-solve for themselves, to fit with how they want to live. Everyone has their own personal bottom line. Mine is different from others, especially when I haven't lived their life. I try now to give them something to hang onto and provide them with as much information that they can handle and give them what they want.

Exemplar

I try to address the patient as an individual. You can sometimes get caught up in talking about people in terms of their diagnosis or referring them by what their problem is. I think it comes back

to respect and trying to see that person behind the problem. It is important to see that spirit almost within the person.

Intentionality

Not all the nurses were helpful all the time nor were they uniformly clear in their role as a caregiver. It was a common thread among the participants that they could not become involved with everyone and that some patients just did not want you to get close. It was clear that they felt they were more helpful to some patients than to others.

The following exemplars reflect these concepts.

Exemplar

It was one a.m. on a Sunday morning. The department was quiet. A woman about 40 was ushered down to the gynaecology bed where they perform pelvic exam. The participant looked at the chart and said, "Oh my god". She looked at me and stated, "That poor woman, she probably can't believe this is happening to her". I took the chart and read that the woman was X weeks (first trimester) pregnant, her husband had died of cancer months previously and she was scheduled for an abortion at a clinic later that day. Her entrance complaint was "vaginal spotting". The woman appeared to be in no physical distress. The one thing that hit both of us was

her flat affect. The participant went in to get a history from her. I stayed on the outside of the curtain and listened to the conversation. The nurse had a very caring attitude but she chose not to gather anymore data about the nature of her visit or the woman's mental status. She got the woman ready for a pelvic exam and then came out to get the MD. On exam, there was no evidence of vaginal bleeding. It was evident that the nurse chose not to get involved with this patient. When I asked her later about this, she stated that she felt uncomfortable about the patient's dilemma. She did say that she felt bad that she did not explore the "real reason" for the patient's visit.

Exemplar

One evening a young man was brought into emergency after amputating most of the fingers and part of his right hand. He kept telling the participant that his hand had been cut off. He seemed extremely agitated, almost hysterical. He was very pale and he stated that he was going to faint. The participant positioned him and continued to prepare to soak his hand in solution. He was begging to be "put out" to have his hand fixed. The participant asked if he had anything for pain, and the answer was, "No". Again the patient told her that he had cut his hand off. The participant moved around the man getting prepared for the doctor and making sure all was in order. The doctor arrived. At that time the participant asked if the patient could have something for pain. The physician stated that he would be doing a ring block and that he (the patient) didn't need anything. Again, the patient said to the

nurse and now to the doctor, "I want to be put out for this I can't stand the pain". No one was listening. They proceeded to take off the bandage. It was stuck onto the exposed tissue and was difficult to get off. The doctor seemed oblivious to this man's pain as he continued to pull and yank off the dressing. The participant asked again for an analgesic for this man and the doctor ignored her. She seemed upset with this decision. Later she complained to another nurse that the procedure seemed to be inhumane. However, she chose not to advocate for this patient and force the issue with the doctor. Later, the participant told the researcher that she had dealt with this physician before and he did not give anyone anything for pain. She said, "I just couldn't fight about this one".

All the participants provided comfort measures in varied degrees. However, two of the participants provided comfort consistently for all of their patients. They would anticipate patients' needs before they were evident. These participants seemed to understand the patients' experience and to immediately take action. All of the participants used touch therapeutically to strengthen their relationships with patients but touch was integral to the two participants' practice as the next exemplar demonstrates.

Exemplar

The participant went into the resuscitation room where she was to care for a woman who had overdosed. The nurse talked with the woman quietly and close to her ear. She stroked the patient's forehead, gently stating not to be afraid and that she was there to help her through this. The nurse started IV's and untangled the patient's clothes. She saw that the aid had not given the woman a gown and asked for her to be dressed in one and covered. The participant also realized that the woman had been incontinent. She changed the stretcher and cleaned vomit from the woman's face. She gave the patient a pillow and a blanket from the warming cupboard. She talked calmly with the woman the entire time.

The next exemplar illustrates the participant's understanding of how to empower patients.

Exemplar

Empathy is so important. Just touching a person, just being there keeping them comfortable can be all the patient requires. It's the little extras like trying to keep the area quiet ... say if they have a migraine, trying to move them to another area. It's important not to just leave. It's important for the patient to maximize control in the situation.

Anticipating the patient's needs and the care that was required became an ongoing theme

early during the observational experience. Three of the participants suggested that learning to anticipate needs is like a sort of "future think". One stated, "at first I was terrified and it took me at least nine months before I wouldn't have diarrhea before I went to work. Now after all this time, the procedures don't frighten me and I feel confident in the decisions I make and the things I do".

The participants constantly were on the move, from patient to patient and situation to situation. One participant stated that, "At times all the information about the whole department is overwhelming. I have a system so I can remember important stuff about the patient and their situation. When it's busy sometimes, you don't remember your own name, let alone the patients". The following transcribed text demonstrates the fragmented intentional activities among many patients with multiple needs.

Exemplar

1752 Hours:

The nurse moves about the cubicles going from one patient to the next. She is responsible right now for six patients on "small side". She is constantly referring to the emergency sheet, reviewing vital

sign patterns and looking for new information about the status of each. She moved into the hall to a patient on a stretcher. She reassured him that the results should be here soon and as soon as they were, she would get the MD. to look at them. She then went into a female patient and talked with her about gathering a urinary specimen. She got her set up and left the cubicle. She went to the desk and filled out slips and charted something on the record. She then went into a patient who had a laceration. She gloved and cleaned the wound, gave him a Tetanus shot and returned to the desk. She informed the MD. that the patient was ready to be sutured and discussed what care he would require (ie.: dressing and follow-up). From there, she went back to the patient in the hall and asked how his pain was. She inquired if he had anyone in the waiting room that he would like to come sit with him. He said yes, his wife. She then went to the triage phone and talked with another who sent his wife down. She got her a chair and told her what was happening and what to expect. She came back to the desk and looked at another chart and went to get the narcotic keys. She poured the pill and took it to another young man who was also in the hall. She went to him and discussed his pain level and established that in the past he didn't have adverse reactions to the drug. She then went into the lady who was on the bedpan, gathered the specimen and helped the woman get settled. She explained that the doctor would be into see her shortly. She saw that a patient had been brought down from triage and she was going to a stretcher, not in her area. She immediately went over to her and stated, "You're back". She talked with her for a few minutes and returned to the man with the

laceration. She bandaged his foot and sat with him to talk about his follow-up plans. She went back to the desk and found that the doctor was admitting one of the patients from the hallway. She began to arrange the admission. During this time a woman with a nose bleed was brought down. She stopped writing on a chart and went to see the woman. She did the woman's vital signs, gave her a gauze and told the woman to apply pressure. She showed the patient what she meant and continued to assess her. She went to the desk, charted and returned to tell the patient she would return in five minutes but not to let go of her nose. She then was told the woman in one of the cubicles was to be admitted to the observation unit but was to have a saline enema before she was transferred. She got all the equipment ready, told the patient and said she would be back in two minutes. She returned to the woman with a nose bleed and reassessed her. She said to hold it a while longer and she would be back. She then returned to the woman who required an enema. She did the procedure and got the aid to get her a bedpan and keep any eye on her. She then went to the desk, charted and proceeded with the observational admission and the ward admission that she left earlier. In the meantime, another fellow was brought down and he had a splint on his lower leg. She went to him, helped him up onto a stretcher and gathered a history. He said he was in pain. She grabbed one of the emergency doctors and got him to look at the man, told the MD. that the patient needed some Demerol and proceeded to get the medication. Before she gave it, she stopped and filled out an X-ray form and took it with her to the patient's side. She gave the medication and requested that the aid take him to X-ray. She

then returned to the lady with a bleeding nose. It had stopped. The lady was ready to go home, but the nurse had to explain that she should let the doctor see her since she was already in the emergency. She spent two or three minutes convincing the woman to stay and then she went to find a doctor who would examine her. That took a minute or so since she had to convince the MD. to see the patient quickly. She explained that the lady was about to leave. The MD. acted like he was doing the nurse a favour. The nurse was acting like he did her a favour as well. The doctor stated to the participant, "You owe me one", and the participant returned, "I guess I do, thanks." She returned to the desk to chart. The fellow with the injured ankle had returned from X-ray. She went to him and asked him how his pain was and told him that he would have to wait until the MD read the X-ray. She moved down the hall to the man and his wife. She said that the ward would be ready for them in a half hour. She went into the woman who had the enema and transferred her to the observation area. On the way back to "small side", the triage nurse told the participant about the next patient. The patient was 22 years old, had five children with two sets of twins under three years. She was experiencing abdominal pain and thought she may be pregnant. The woman was very upset when the participant went into see her. She helped the patient disrobe and took a history. The participant got her to do a midstream urine and talked with her about what to expect re: pelvic exam. The nurse left the cubicle and went to the desk, wrote on her chart and sorted and reviewed the rest of the patients' charts. The time was 18:48 hours.

Quantum Caring

Quantum caring refers to the participants' ability to find and detect order within the environment (Watson, 1990). It offered a counterpoint for the chaotic forces in the emergency environment. In most situations, the participants tried to create an atmosphere of order, of calm and control for patients and families.

The following exemplars reflect this concept.

Exemplar

I hope that in talking with patients, even when sometimes you only have thirty seconds, that this will help to give them some sort of comfort or reassurance. To let them know that we do know what we are doing and we won't let anything bad happen to them ... that we will do what is in their best interest.

It was evident that the participants felt they created order for the patient. They linked caring with their ability to master the environment which enabled them to care in a competent manner. One participant was speaking about the resuscitation room, she stated:

"It's important to know what to do in here, from checking equipment, on through checking the oxygen and suction to knowing the drugs. I feel much better and under control with serious patients since I took the emergency course. It taught me how to think quickly I now have confidence in my decisions and I can get my adrenaline under control. I used to feel panicky when I was assigned to this area but now I feel like I work with the room to create the order for me and the others. It is especially important to know what to do during a trauma. I'm sure the patients feel more secure when we have it together. After you work in here for a while and cope, it gets easier."

The In-Between

It was evident during observation that the in-between is a fundamental stance of emergency nursing. It was necessary for patient safety plus it seemed to be the foundation of the hospital's emergency care system. Such care required interaction and transaction among multiple combinations of people: between nurses, physicians, pre-hospital personnel, police, hospital and community bureaucracies and family. The participants stated that they intervene on behalf of the patient and family.

In the emergency, the "in-between" role is a demonstration of care since it ranges from

interpreting language to manipulating the system for the patient and family's benefit. One participant stated, "We make sure the patient doesn't get forgotten or lost in the vacuum of the system ... We make sure the place runs."

The following exemplars reflect the "In-between role" of the emergency nurse.

Exemplar

The participant was discussing the sexual assault protocol as it applied to a specific case. She informed the MD. that the RCMP was not sure if they needed a consent for release of information regarding a victim's sexual assault. The participant was not sure if the victim had signed a consent or not. The MD. and the participant thought that since the woman had signed a consent to press charges then all the information should be accessible to the police. She phoned the RCMP back with the information.

Exemplar

The participant informed two detectives about the patient who was in an MVA. The participant told the detectives the story of the accident and proceeded to tell them about her condition. The police wanted to see the patient. The nurse went into the patient, told her the police were there and asked her if she was up to talking with them. The nurse escorted the police in.

At times, the emergency nurse is an interpreter of medicalesse. Medicalesse refers to highly technical medical language used by physicians and other medical personnel.

Exemplar

The participant was caring for a man with a lacerated finger. The MD. asked the patient if he wanted an analgesic. The patient looked at the nurse with a questioning face. The nurse said, "Would you like something for the pain?"

At times the participants' had to organize other units in order to move the patient through the system.

Exemplar

The department was very busy. It was the early evening. The participant's patient required admission. The participant spent fifteen interrupted minutes looking for a bed in the hospital. She was on the phone to the ward and the supervisor. She was assertive and demanded that the patient in emergency be the priority. She said, "Move someone now. I have a green diversion on (process where a hospital can block any ambulances from bringing patients with minor problems to the emergency). We're full! I can't close the doors down here. You need to move someone in ICU. Do you know how long you will be? Dinner break? ... We're in a bad situation down here. We need this patient moved now. She is very sick and needs a bed." While

she talked on the phone she was also carrying on a conversation with a doctor who was asking about a patient's blood gas. Later she said, "They take so long ... I had to problem solve for the ward and the supervisor. But I don't mind as long as I get the patient where they can be more comfortable and that is in a bed on a ward."

The participants spent considerable time monitoring and ensuring the quality of health care practices.

Exemplar

Some days you feel like chief cook and bottle washer. "Emerg" has a lot of coordinating type of activities. It depends, sometimes on exactly what's happening that day. Sometimes the docs are busy and not able to do the things necessary for the patients. I will do them for the patient rather than have the patient suffer or go without. I mean I make sure that treatments are ordered by the doctors; I'll follow up on the patient's medical management. You have to in emergency because some doctors wouldn't remember about Mr. So and So's last ventalin or his next face mask treatment. I do it for the continuity of care ... the patient trusts us to be on top of things. I make sure I give them (MD's) an up-date on the patients.

The next exemplar illustrates the necessity of the "in-between" role that the emergency nurse plays.

Exemplar

Emergency is very in-between nursing. You can be in-between the ambulance guys and the docs, or in-between different hospitals like when you transfer a patient. It's an in-between type of place. You're in-between patients and doctors, you're in-between ambulance personnel and families, in-between the lab technicians and the patients, in-between patients and other nurses, in-between this department and the ward, in-between this department and other agencies like Main Street Project. You're in-between the needle and the IV, in-between the pill and the bottle, and in-between the hospital and the community. I suppose to a degree the nurse down here is in-between life and death itself. I guess you could say that, the emergency nurse is to patient care like a conductor is to a symphony.

Reciprocity

The theme of reciprocity emerged as important from the interviews with the participants. Five of the six participants agreed that one must first be caring towards the self. They asserted that, at times, in certain situations, emergency nurses emotionally distance in order to be effective during the crisis and emotionally survive the event. Four participants discussed the need to feel cared for in the workplace. Five of the participants felt that it was necessary to have a place to vent and feel

secure, away from the job. Six of the participants shared the view that giving care is facilitated when the patient-family response is favourable. Two of the individuals stated they needed to feel a reciprocation of caring when involved with certain traumatic situations (ie., sexual assault or sudden death). All of the participants felt the need for a debriefing exercise after experiencing a traumatic situation or a compilation of unsavory events. The participants stated that, after a particularly grueling stretch, sick time in the department is high.

Five participants asserted that they believe that their caring should be reciprocated for two reasons. First, they believed that a balance between personal and professional life was important to the lived experience of feeling the reciprocation of natural caring. If they experienced love and support away from the workplace, it was easier to care at work. Second, they believed that the capacity to practice professional caring required reciprocation from their peers and from administration. Four of the participants expressed the need to hear from nursing administration. They felt it was more

productive to hear about the good things emergency does instead of just the negative.

It was evident during the course of involvement with the participants that they used the "story" as a method of organizing and communicating knowledge, skill and expertise. What was most obvious was how story telling seemed to ease their pain. Some stories were funny, some were sad, and others seemed to capture the essence of emergency nursing practice. Telling stories seemed to link the nurses together as it emphasized their moral force, and gave them strength and healing power. The following exemplars reflect this phenomena.

Exemplar

I try not to take my work home with me. So when I go home it's left behind. I guess that may lead to a bit of schizophrenia, but that's necessary for survival. However, there is always that one patient or situation that you may feel you need to talk about ... sometimes my family help me get through it, they let me ramble on. If I believe that I have made a difference in someone's life, that gives me the strength and energy to go on.

Exemplar

Most of the deaths we see are trauma and cardiac arrests. We don't get a chance to know to any degree of time, so we don't have much contact with the patient. It doesn't have as much impact as, say, caring for a patient for a while on the ward would. When you have had a chance to establish a relationship with a patient and the family, it makes it harder to deal with the death and the grief.

Exemplar

It was on my last set of nights and I was so tired. It had been one hell of a night and I didn't have much left to give. This fellow was brought in after being in a fight and stabbed in the chest. He was so drunk and obnoxious. He was so foul mouthed, four letter words were every second word. He kept trying to pull out his tubes, especially his chest tube. He was just flopping all over and I was so mad at him. I was so annoyed at him I swore back. It really shocked me after I said it and I thought, "My god, I'm tired of dealing with these drunks." I was tired of cleaning him up and replacing his dressings after he repeatedly tore them off. Because of that there was blood all over the place ... he was a drug abuser and I was trying to be extra cautious. I wouldn't have minded if he even knew I was trying to help him but he was so out of it that it didn't matter to him, he could have cared less.

After caring for a patient like this the participant stated, "I love the sanctity of my family".

This next exemplar illustrates how fragile life can seem to the participants after being part of a family's tragic loss.

Exemplar

I had a patient whose mother was a nurse who worked at Woman's Hospital. Her son had just got his licence. At the time my kid was the same age. This kid was driving from Stonewall and got rear-ended and he had a fracture at C2 (broken neck). He was brain dead and they kept him for his organs. My son had just got his licence and as I said was the same age. That is something I will never forget because the mother was so devastated. I spent a lot of time with her and I believe I gave her a lot of support. It was really hard on me, my god, because here I was identifying with her. That one sticks in my mind.

This participant was reflecting on how hard it is to live with making an error.

Exemplar

One patient, who I will always remember, taught me a great deal about myself. She was a young woman, late thirties probably. She had been severely beaten in the head from a street fight. As it turned out, she was seven months

pregnant. We didn't know it at the time, since she was quite obese. I was the "resus." nurse (person responsible for patients who require resuscitation) and I was still at a stage where I wasn't really thinking for myself. To a large degree, I was following orders. They did an abdominal tap and of course, the consequence was a huge gush of fluid from the vagina. I never picked up on it. I really blamed myself afterwards because of my background I should have picked up on it. But I didn't, I was so caught up in following orders and doing things, I didn't think for myself. I mean no one else did either. As it was, it probably would have made no difference for her or the fetus because she had been lying there for some time. But, I always will wonder if I had just clicked in to the cues, could we have saved the baby. But there is self-blame and guilt because I wasn't thinking for myself. Actually, as a result of that experience, I've been able to increase my assertiveness in situations and I guess I have more confidence in myself in making independent decisions.

The participants knew that there is a time for sharing and time to keep problems to themselves.

Exemplar

I think emergency nurses are like a self-help group. You'll often talk amongst each other. If you have someone to go home to who can sort of understand you vent there as well. I guess a lot of people see emergency nurses as very tough, very cold, hard people but I disagree. I think we keep a lot of

things inside because you don't want to cry or you would have everyone crying. You know when something is sad and when everyone (family) is crying, someone has to keep control, and I think you then tend to keep things to yourself.

Exemplar

We do a lot of talking down here, on our breaks just rehashing the event. That seems to bring tension down if we talk about it together. It's easier to talk with the people who have just experienced it with you. Generally, you don't tell the sad or ludicrous stories at a cocktail party. Nobody wants to know how many dead people you saw last week. The "far side stories" always end up not as funny when you tell it to a group of lay people. So we use each other and usually it helps us deal with the devastation easier.

The participants were aware that they were at risk in potentially violent situations. They knew when to protect themselves.

Exemplar

I'm not a hero, I watch out for myself. It does depend on the patient and the situation. If they are swinging and violent, I don't get near them. I try to make my work fun and satisfying. I try to joke with people, to lighten up a little. It seems to work at the appropriate times.

Humour was used to cope with complex situations.

Exemplar

You should have been here yesterday. I was at triage, and the place was crazy. I had charge of a person who was a chronic schizophrenic. I knew her well since we see her frequently. She was screeching "Evita" in high C, and another lady who had taken 28 chlorpromazine and had attempted suicide earlier. She was being sent home by psychiatry and I was a little worried. So I asked her to sit in the waiting room for a while so I could keep an eye on her. She repeatedly came up to the triage desk getting whiter and whiter. Every time she would get shorter and shorter. Then she would jerk herself upright and then sit down. The waiting room was so full and it had been a few minutes since "C" had come up to the desk so I went to check on her. On the way back to the desk, I noticed a man sitting in the waiting room and I sort of thought he looked weird. I stopped and asked him if he was the guy with the nail in his head. We were expecting him. He said, "Yes". I wonder how the others in the waiting room perceived all this. He told me that his right hand felt funny and kind of numb and then he said, "It was sure a good thing that the nail (6 inch nail) didn't hit my brain."

Time and Helping

Six of the participants believed that caring required time. They perceived that when time is available to become involved, one can directly and intentionally provide caring that can help the patient and/or family. The participants

believed that they must "help" patients and families achieve maximum wellness, alleviate suffering, or reach a dignified death but they required time to do so.

Exemplar

It can be very stressful when you have a lot of things going on, but you can't devote yourself as much as you would like to for some patient care. Often it is too busy to do all that is necessary since a lot of different things need doing at the same time.

Exemplar

If you have five patients on small side and two nurses, you can pretty well do anything you want to do as far as teaching and follow-up care. It feels great when you know that the patient has had your best ... they have the verbal explanation, demonstration and follow-up care. But, sometimes, it is just wild and people walk out without appointments to return or knowing how to use the crutches properly, or how to take the meds. It can be frustrating.

Exemplar

There are times when you're really busy and the patient is whisked off to the ward and you feel like you haven't done everything you could have, not in a physical sense as much as that you wanted to spend more time with them, talking with them or giving more support. Many times you are at a loss on how to do that too.

The participants perceived that approximately 60% of their time is spent engaged in direct patient care. However, it was observed and recorded by the researcher that the majority of time spent directly interacting with patients was much less than the time that was spent interacting with other nurses and other health care workers. One time and motion study revealed that during a one and a half hour period, the participant interacted with other nurses 53 times, wardclerks and aides 20 times, MD's 19 times, the phone 10 times, family 5 times, and patients 21 times.

The time that the participants spent in each element of a decision-making event was difficult to ascertain as assessment was on-going and decision making was not always obvious. The participants spent most of their time in assessment. The planning phase did not seem obvious to the researcher. When the participants were asked whether they spent time planning, they stated that it was not something of which they were conscious; more often than not, the action or decision "just seemed to happen".

In summary, the theme, Care and Care Work, was discussed using the subthemes; Caring in Context; Intentionality; The In-between; Quantum Caring; Reciprocity; and Time and Helping. It was found within the multiple exemplars that caring was an important contextual variable to consider in the actual practice of emergency nurses. Caring made a significant impact on their decision making processes.

The Human-Environment Relationship

Chaos

Where chaos begins, classical science stops. For as long as the world has had physicists inquiring into the laws of nature, it has suffered a special ignorance about disorder in the atmosphere, in the turbulent sea, in the fluctuations of wildlife populations, in the oscillations of the heart and brain. The irregular side of nature, the discontinuous and erratic side -- these have been puzzles to science, or worse, monstrosities (Gleick, 1987, p. 3).

In this section of the chapter the findings suggest that there exists a connection between the participants' decision making processes and the state of the environment where the decision was made. Circumstances within the environment influenced the participants' ability to care and make meaningful decisions.

The relationship the participants had with their work environment was a central theme and a focus of this research. Most work related decisions were made by the participants in context. Decision processes varied and seemed to be linked with the degree of complexity within the environment. The greater the perceived uncertainty about a patient or a group of patients or within the physical environment, the greater the degree of unpredictability in human behaviour existed.

The participants stated that the unpredictability was a characteristic that they liked about emergency nursing. One participant said that the "craziness" is what keeps her coming back. All stated that the variety and fluctuation of acuity levels of patients, and the mix of problems were interesting. "There is never a dull moment in emergency and I get bored with the routine of the ward life. You never know what to expect from minute to minute, and I like that ... most of the time."

The participants expressed that they felt a great deal of satisfaction and

accomplishment when they "handled" situations that were or rapidly became "out of control". However, it was observed by the researcher and validated by the participants that long periods of "chaos" are emotionally and physically exhausting. One participant stated, "Constant movement and noise hour after hour without a break really gets to you after a while. If you feel like the place is out of control, the disorder seems overwhelming." Another participant felt, "At times I feel like I'm going every which way and not accomplishing anything. When we are busy you have time to do the bare necessities for a patient, maybe not even that. When we are chaotic, you feel like you run from one thing to another, accomplishing little. You just seem to do pieces of everything. The fragmentation is frustrating."

Another participant expressed that certain physicians cause situations to become more disruptive due to their disrespect for nursing work. "Some doctors barge in or cut right in on your assessment or discussion, asking you about one thing or another. Usually what they want could wait. It disrupts your flow and thought process and is really rude. It can throw you off balance."

The participants indicated that the inability to control the environment increased their perception of uncertainty. One participant stated, "Emergency never closes their doors, we can't turn anyone away. The nurses in emergency know when we can't cope with one more thing and yet we can't place a "Green Diversion" (a policy that disallows non-urgent patients to be brought to that particular emergency department by an ambulance) without a lot of hassle". Another participant stated, "Yesterday we were going full out all day. By the end of the shift I felt if we got one more "99" (cardiac arrest) I would be one myself".

Disruption of the physical environment was a source of concern for the participants. Certain elements were identified as increasing the disorder within the department. They include: patient charts not being in the right place, parts of the patient's chart missing, policy or reference material not being where it should be, equipment being not in its place or not restocked, faulty equipment, changes within the physical structure occurring without notice, and unnecessary changes happening in nursing systems.

The following exemplar reflects how the emergency nurse must practice in a situation that is complex and highly unpredictable and uncertain.

Exemplar

It was steady summer evening in the emergency department. Not a stretcher was empty and the waiting room looked like it was spilling over with people. The participant got word from triage that a young woman was due to arrive in minutes. A "99" (code to describe a cardiac arrest) was paged over head. The participant quickly went into the resuscitation room and began to ready the area. The floodgates opened and people were everywhere. Some where there only to observe. A young woman was rushed in by ambulance attendants. They began telling the story. No one knew her name or where she lived. The only thing that the ambulance personnel could tell the participant was how they found her. She was unconscious with no other apparent injuries. Upon reflection, the participant stated, "We didn't know anything about her. We were uncertain about the severity of her problem, uncertain about her past medical history ... we knew nothing about this lady at all. It's hard to be able to predict the success of our management if we haven't much to go on".

The transcript revealed this specific conversation about the event:

Participant = p; Other nurses = o;

Researcher = myself (ms)

Time: 1930

p. "What's going on?"

Dr. "Need an IV line"

p. "Got one here. Excuse me but I need to get the line"

ms. The voices of the participant and others were very monotone and almost curt. The participant moved purposefully around the patient and room efficiently. Everything was happening at once. Noise scale at an 8, the room is so crowded, the nurses have to weave their way in and out of extraneous people. Everything seemed to be happening all around me.

Dr. "We need some Dextrose"

p. "I guess that guy's a doctor, eh?"

o. "I haven't seen him around, he must be the new H7 resident."

p. "I'll get a set of V.S. ... They're OK. Lines are in and she has a tachy arrhythmia. It's normal tho'"

o. "Did you get blood for drug screen?"

p. "Yep, BP is 194/70, it's OK"

Dr. "Get a quick EKG and an X-ray"

p. "What do you think?"

Dr. Could be an overdose. The dextrose didn't seem to help, need some Narcan"

p. "OK, right away"

ms. Participant got the Narcan and verified the dose and then gave it.

p. (on phone to Xray) "It's resusc, we need a chest Xray right away."

p. (on phone to EKG) "It's Emerg. we need a stat run done in resusc."

Dr. "Foley in?"

o. "Yes, we just got some urine. Do you want it sent for a screen?"

p. "How much fluid is in? Don't you think we should slow down a bit?"

Dr. "Sure, TKO"

p. "We don't have a chart on her yet. Do we know who she is?"

p. To aide, "We need an armband"

p. To the room, "Are the police trying to find out who she is?"

ms. The room is a shambles. Used containers on the floor, blood splatters, used equipment and linen is everywhere. People who are not directly involved talked among themselves. At times nervous giggling was heard from among the crowd. They are in the way and do not seem to help the situation. The nurses

seem to accept their presence but were terse with them initially when the patient first arrived.

Time: 1947

The environment displayed patterns that were deterministic and stable to patterns that changed dramatically from one instance to the next. Episodes of chaos occurred spontaneously, at which time patterning of the phenomena changed unpredictably and with no apparent relationship to previous patterning. At this time of disequilibrium, certain characteristics appeared within the environment: noise levels increased dramatically; erratic movement of personnel and materials increased at a faster pace; activity was abundant but fragmented; and disorder within the system escalated (ie. scattered records, reference material misplaced, technology breaking down).

As the environment became more uncertain and complex, the participants and others around them appeared to be far from equilibrium. During periods of high intensity, where the environment appeared out of control, the participants

behaviour became more disjoint. The participants' referred to those unpredictable, highly complex and irregular times as, "chaos".

Exemplar

The shift began at 19:30. The department was busy. Every stretcher on "Big side and Small side" were full. In the small area around the main desk thirty-eight people, other than patients, occupied a 30 X 30 foot space. These people were standing in the aisles, around patient stretchers, sitting on chairs in various places, or standing talking or writing at the desk. They were relatives of patients, nurses, EMO's, medical specialists, fourth year medical students, unit assistants, ward clerks, police lab and ambulance personnel. The noise level fluctuated. One minute it was a din; a low roar the next. It could be compared to the ocean, crashing into shore frantically one second to a calm, even flow the next. It as overpowering. The participant was working on small side. She worked steadily with the patients arranging the work area. It was a frantic pace where the participant moved back and forth from phones, to the patients, to the desk and back again to the patients. There were three people waiting to be sutured: one young fellow on a stretcher in the hall, two elderly patients in the treatment room waiting for results, and a gentleman being seen by the plastics' resident. This fellow had a bleeding hematoma of the right arm. The resident suddenly yelled for assistance. It appeared that the bleeding was uncontrolled. The doctor kept belting out orders. It sounded like it was all meshed together: Get a PT and PTT. He

needs the OR. Get someone in here to help me with this. What is his blood pressure? Start an IV. Get a group and match for a stat run. Does he have any allergies? Is the OR ready? Let's get him up. The participant methodically went from one task to the other, she started an IV, got blood for the lab and the Red Cross, got a set of V.S. and assessed his level of consciousness, apply a pressure dressing, phoned the OR, phoned the Red Cross, and filled out blood requisitions. She was constantly interrupted in the process of attending to this emergency. She did not seem to get in a flap. She talked calmly to whomever or gave direction to other staff. In the midst of the emergency, (the patient was stabilized) the participant heard another patient retching. She went to the patient gave her a kidney basin, and settled her by talking with her. In the course of caring for her, one of the fourth year medical students (who appeared oblivious to the confusion) asked the participant to get a urine sample from his patient. She interrupted her work and went to get the urine. She stated later, that by getting the urine herself rather than directing the medical student or going to find a unit assistant, ultimately saved time in the long run. There were other things that were going on simultaneously: ie, another patient was going to the OR at the same time. This patient was seriously life threatened and much of the staff and the resources were tied up with that patient. Lab people were all over the department asking who was the ECG for, or calling out a patient's name with the lab requisition dangling from their hand. In among all of the confusion, more patients were being brought down from the triage area and ushered into a vacant space.

Later, the participant said that she liked "that kind of busy" since she felt "on top of the situation".

The participants expressed that much of what contributes to the uncertain and complex nature of their work life pertains to their personal perception of disorder. They suggest that most often they can cope with the chaotic external environment if they internally perceive that the environment is in order. Elements that aggravate an already unpredictable external environment were described as: dealing with others' indecision; dealing with others' disorganization; dealing with incompetence; dealing with little or no respect from other professionals; coping with ignorance from others; coping with the "game playing"; dealing with peer pressure (ie, to keep up the pace); uncertainty of expectations; uncertainty related to patient acuity; uncertainty of patient outcomes; uncertainty of not knowing; uncertainty of complete data base; uncertainty of own decisions; uncertainty of administrative support; uncertainty of peer support; never feeling that there is any closure; unexpected change in traditional nursing systems; uncertainty related to ever changing technology; uncertainty related to their own

safety; uncertainty about how others value their work; and uncertainty about the future of the physical nature of the department.

Exemplar

When it gets quiet in the department, it bothers me. I feel like any minute the door will fly open and the people will flood in. Sometimes when it is so quiet, which is unusual these days, I feel kind of anxious because anything can happen. Part of working in emergency is the unknown. It makes it stressful but exciting.

Exemplar

Young man to "Bigside" via ambulance. Neck collar on, on a back board, eyes swollen, shut. The nurse asked, "Do you know your name?" No response. "Are you sore or have any pain?" No response. "Is your neck sore?" No response. "Squeeze my hand" No response. "Can you open your eyes? No response. The questioning was constant as the participant engaged in active intervention with this young man. She stated later that it is so hard to solve problems when you know so little about the patient or their situation.

Exemplar

The participant was commenting on the continuous change in their physical environment and she expressed how

powerless they feel when sudden
unexplained change occurs.

The only way to keep your mind
in here is to have a sense of
humour. All of a sudden we
have a new pipe in the middle
of the treatment area on
Bigside. It was put in last
night at a moment's notice.
It hangs right over stretcher
six. It looks terrible. I
sure don't want my patients
lying on the stretcher for
hours looking up at a drain
pipe. We put a piece of
plastic up over it last night
... it didn't help. Someone
put up a sign "The Outhouse".
I guess they are renovating
upstairs. I hope this helps
to make it look good up there
... it's offices!

Exemplar

I like the variability that the
emergency department offers.
Although, when it is out of
control, I mean, when the place is
crazy, I find it really draining.
Especially when the action is
constant day after day. I guess
the element of uncertainty is a
double-edge sword. It's exhausting
and exiting too. You never know
what in the world is going to
happen next.

Triage is a unique area of emergency
nursing practice that best reflects the great
degree of complexity and uncertainty embedded
within the process of decisions made by the
emergency nurse. The participants expressed their

respect for those nurses who they felt performed well in very chaotic and uncertain situations.

Five of the six participants stated that advanced education and experience was an absolute must in order to be "safe" triaging. One participant felt strongly that, beyond experience, the triage nurse must have a desire to do the job, as well as excellent public relations skills. All of the respondents concurred that the triage nurse must be competent in rapid decision making. The participants described stories of "overwhelming shifts" where multiple patients/family and horrific conditions prevailed. They stated that if it is busy and you are the only one "out there", they are at risk for error. They also felt that as it got busier and more confusing at the triage desk, their ability to cope with "weird" behaviour or vague problems were significantly reduced. This inverse relationship was observed frequently by the researcher throughout the research data gathering phase.

The participants thought that the physical layout of the triage area was far too small and cramped. Three of the participants expressed their concerns with the lack of privacy

that the triage area allowed patients and family. All of the participants liked that the waiting room was visible since they felt responsible for patients who were waiting to be seen and for family/friends waiting for loved ones. With the waiting room close, the participants stated they could pick up on problems among waiting patients or family. One nurse stated having the waiting room close to triage helped her sort out who was who relative to a name on a sheet.

The participant was the only nurse triaging; therefore, she was responsible for the area's operations. The following exemplar demonstrates the complex, variable, and constant conditions under which triage occurs.

Exemplar

All patients are triaged to the emergency department or to Primary Health Care. After the nurse assesses the patient she/he makes a decision about their acuity and to what area the patient will go to in order to receive further care.

	Those Being Triage'd	Waiting Triage	Waiting Room
1215:	Man with allergy	1	4
1217:	Purolator Courier wanting direction		4
1218:	Phoned for bloodwork	1	
1218:	To waiting room to talk		5
1220:	Female to desk needing insurance claim filled out		5
1220:	Female with fractured arm follow-up appointment	2	
1221:	Two police asked for a patient in the eve. before	2	6
1225:	Ambulance phone - GC3 in 5	2	
1230:	Counselled woman re: staying to see MD.	1	
1230:	Man with back pain	1	7
1231:	Man complaining his kidneys are sore	1	8
1232:	Woman looking for mom in hospital		
1232- 1235:	Finding this person on computer		
1235:	Man with abdominal pain	0	
1236:	Phone to orthopaedic specialist re: follow-up appointment	1	9
1237:	Female with sore left shoulder	3	10
1238:	Call back from ortho Dr.	3	
1239:	To waiting room to talk with woman re: specialist	3	

1240:	Security asking about a relative's whereabouts. Car in the ambulance's way	3	
1240:	Man with sore back and abdominal pain	2	11
1240:	Ambulance in with woman who was in car accident. Woman in wheelchair with a bloody face.	3	
1242:	Completed assessment on man prior to attending to ambulance	3	12
1242:	Assessed woman and got history from ambulance attendant	2	
1243:	While assessing the ortho resident interrupted nurse to get directions to woman with fracture	2	13
1248:	Returned to assessment re: lady in MVA	2	13
1250:	Older man fell and hit knee. Daughter with him	1	
1251:	Resident interrupted interview to ask how to admit his patient	1	14
1252:	Returned to assessment	1	
1253:	Called treatment area, escorted 2 people to treatment area		
1254:	Male from Rankin Inlet could not speak English. Had interpreter. Man had sore left arm ... red and swollen		10
1300:	End of interview	1	
1300:	Female, ringing in ears	0	10

1301:	Phones X2 ringing Answer 1st - 5 second call Answer 2nd - 3 min. call re: transferred patient to be expected	1	
1305:	Man lacerated nose with carving knife		8
1308:	Phone call, took family to treatment area	1	9
1310:	Man scheduled patient, ear wax build-up	1	
1311:	Man with lactose intolerance		9
1313:	Phone interrupted interview for a minute		7
1314:	Back to interview	1	
1315:	Elderly male very ill looking. Had appointment with Dr. but did not keep. Has leukemia. Nurse took patient right down to treatment area	3	
1316:	Man with abdominal pain	2	8
1317:	Woman wanting direction	1	
1320:	Man in because he was passing blood in stool. Lump noticed today. Going away within a few hours and can't wait to see own MD.	0	9
1324:	Phoned to PHC to see if someone could see him soon		10
1330:	Arranging with admitting admission of the woman with fracture	0	
1330 - 1336:	Housekeeping vacuuming and can't hear a thing		8
1337:	Nurse to waiting room to talk with woman and family re: admission		8

1340:	Two police into ask questions re: overdose patient in earlier in the day	1	
1340:	Gave a person directions to ICU	1	7
1341:	Woman with complaint of pain on intercourse	1	6
1342:	Phone call, interrupted interview	1	
1343:	Continued interview		
1344:	Man with cast too tight	1	6
1345:	Man with amputated fingers	2	6
1344:	Interrupted the interview to go to assess woman behind him. The nurse got her a wheel chair and began an assessment. Got specifics: woman had chest pain, left lateral chest. On nitro and not working. Continued for a while longer and took lady down to treatment area	2	8
1351:	Returned to interview with man who amputated fingers	1	9
1354:	Woman with irritated eyes. She did not want to see a Dr. but wanted a prescription	0	
1359:	Ended interview and had convinced woman to wait and see a Dr.	1	
1400:	Man wanting tensor bandage for wrist	2	10
1405:	Man hit eye 2 weeks ago, now having trouble seeing. Nurse assessed and the pupil was fixed and dilated	1	
1407:	Woman wanting to know about friend who was in emergency	0	11

- 1409: Relief nurse wanting report
 The participant told her
 all about the patients in
 the department: who was
 waiting for results in the
 waiting room whose
 relatives need to be
 taken down to department
 what patients were
 priorities and should be
 seen soon. Reviewed
 details about people
 waiting to be seen
 expected arrivals to the
 department from community 2 9
- 1416: Report complete

In summary, the researcher found that the participants experienced chaos in their work life in the form of ambiguity, uncertainty, complexity, vagueness, unpredictability, lack of control of the environment, and undetermined randomness. The elements were not present in all situations, nor did all participants perceive individual situations as chaotic simultaneously. However, environmental forces had a significant impact on the decision making processes of the emergency nurses and a profound effect on their care work.

Order

"Even with the simplest equation, the region of chaos proves to have an intricate structure far more orderly than was guessed at first. As the system is driven harder, windows of order appear with odd periods. This dissipation is an agent of order" (Gleick, 1987, p. 74).

Order is the antithesis of chaos (Gleick, 1987). The greater the uncertainty and disorder in the environment, the more the participants tried to restore, maintain or create order. If a patient was critically ill, the participants focused on restoring them to equilibrium. If the department was chaotic, the participants maintained control and coordinated the setting; "make it run". "Order and structure is very important" stated one participant, "Without order and a sense of control it makes it hard to function in emergency".

The researcher found that order and structure was a major component of the participants' clinical practice. Just like chaos

is a steady state in emergency environment, so was the participants' need to create order. The text and text analogue indicated that order was described in two ways: 1) external order; and 2) internal order.

External order included structural coordination; i.e., structural practice. In the study, the nurses often described their role as the in-between. "We make all the connections between the personnel of physicians, technicians, and all the other players in the system." During observation the participants showed that this connection often went beyond the boundaries of the hospital to include outside agencies. The participants included action as the primary person whose job was to care about anything that might happen in the environment of the patient and to connect any parties who need to be connected in order to assure a successful outcome for the patient. The participants in the study often assumed responsibility for conveying information between one party and another. Such activities occurred continually. During one observation, this phenomenon occurred eighty-seven times in two hours and an average of once every forty seconds.

The participants continually maintained the integrity of the physical setting. Specific areas were designated for certain types of patient problems (Appendix J). The resuscitation room was only used for one who was life threatened. "Big Side" was used for people who may not be life threatened but who required frequent monitoring. People who were placed on "Treatment or Small Side" were not usually urgent and required less monitoring than the other areas. Each stretcher bay was numbered and a patient was assigned that spot by the triage nurse or charge nurse. Certain stretcher areas were designated with certain functions: eg., stretcher number one was the "gyne" bed and usually reserved for women who would require a gynecological exam. Supply carts with specific supplies were kept in specific places and were named; eg. "IV cart", "Cath Cart" and the "Crash Cart". Patient charts were kept in a specific place on the central desk with each one claiming sacred territory. There were special slots at the central desk for all types of forms and requisitions; the slots being labelled specifically.

Systems were designed to track patients during their stay in the department. The triage

area had a metallic board that visually represented a schema of patient placement within the department.

Personnel for certain areas were written on a chalk board or on an assignment sheet. The nursing assignment sheet listed the area and shift rotation each staff would work. It also included information about who would go on first, second and third "break".

Posters of procedural activities were stuck up on the walls. Drug calculation formulas were in clear view. Check lists were posted for every cart and in every room in the department. The participants were endlessly checking supplies and equipment. Procedure manuals were in clear view along with favorite reference guides.

The participants stated that they required a structured system especially in "chaotic times". They liked to know where the patient's chart could be found. They liked to have equipment in "its place" and working. They especially disliked something new "sprung" on them without warning. One participant stated, "When the equipment is broken or I have to hunt for a

chart, it slows down the patient's care. I feel responsible, I want to help them through the system as fast as possible." Another stated, "Charting systems need to be fast and efficient. We seem to change them to fit the new "in" method. Most of the time we don't have time to do all the extras. My main priority is the patient and their immediate needs."

Internal order was described and perceived as "having control". Constant assessment was one way the participants "felt like they were in control". Assessment of the patient and the setting was a major component of the participants' decision-making process. This continual search of the data field was expressed by one participant as "having your hand on the pulse at all times".

On observation, the researcher found that the participants were organized and goal-directed. The assessment was focused, decisions were rapid, and the activity was task-oriented. It was observed that, when the acuity of the patient increased, so did the participants' predisposition to task-oriented care. If the situation was chaotic, the participants tended to

act in a more "robot-like fashion", focusing on skilled performance.

On observation, the participants demonstrated effective management of rapidly changing situations by grasping problems rapidly, managing a crisis until collaboration occurred, and coordinating an unpredictable and chaotic environment.

The chaotic nature of the emergency department was enhanced by the perception of the participants that the setting was inadequate. One participant stated, "When it gets really busy, the noise level can be deafening". One way that this participant dealt with the noise was by "tuning it out".

They felt that the area they worked in was a "dump" and needed to be larger and brought up to current standards. In that regard, they were disillusioned with the hospital administration. One participant stated, "Good care is provided in our Emergency in spite of the place".

The participants expressed that they felt they maintained emotional control by distancing themselves from certain situations or by getting away from the area. One participant said that, "If it has been a particularly rough stretch, I need to escape; I might take a sick day. I don't feel guilty anymore because I do it for my mental health and so I can come back ready for more". One participant used humour to deal with particularly distressing incidents. This participant said, "If you don't laugh, you cry ... and you'd be crying forever".

The participants expressed that they felt a "debriefing" would be very helpful in order to have closure and resolution for traumatic experiences. Some experiences were so troublesome that years later it was still hard for the participant to discuss the event.

The following exemplar reflects the concept of internal order.

Exemplar

I think as emergency nurses it is really important to make sure the patient isn't more stressed out by being in the emergency setting. I hope that by talking with someone, even if it is thirty seconds, to

reassure them and comfort them is important. Letting the patient know that you know what you're doing, and that you won't let anything bad happen to them allows them to relax. If I do everything I can for them it gives them a chance to unload their anxiety. Part of my job is to ensure that their experience is a coordinated effort. Creating a controlled environment for my patient is so important. I feel like sometimes you need to control the patients world for a time, especially if they are very ill. I suppose I want the patient and their family to feel secure with me caring for them. That's one less worry they will have.

In summary, the researcher found that the participants described order from two perspectives: external and internal control. Control was seen as a sense of maintaining order for the patient as near to some specified reference standard in spite of disturbing influences ie., physical environment or a life threatening illness. The decision to order the environment on the patient's behalf is an illustration of the caring practices of the participants.

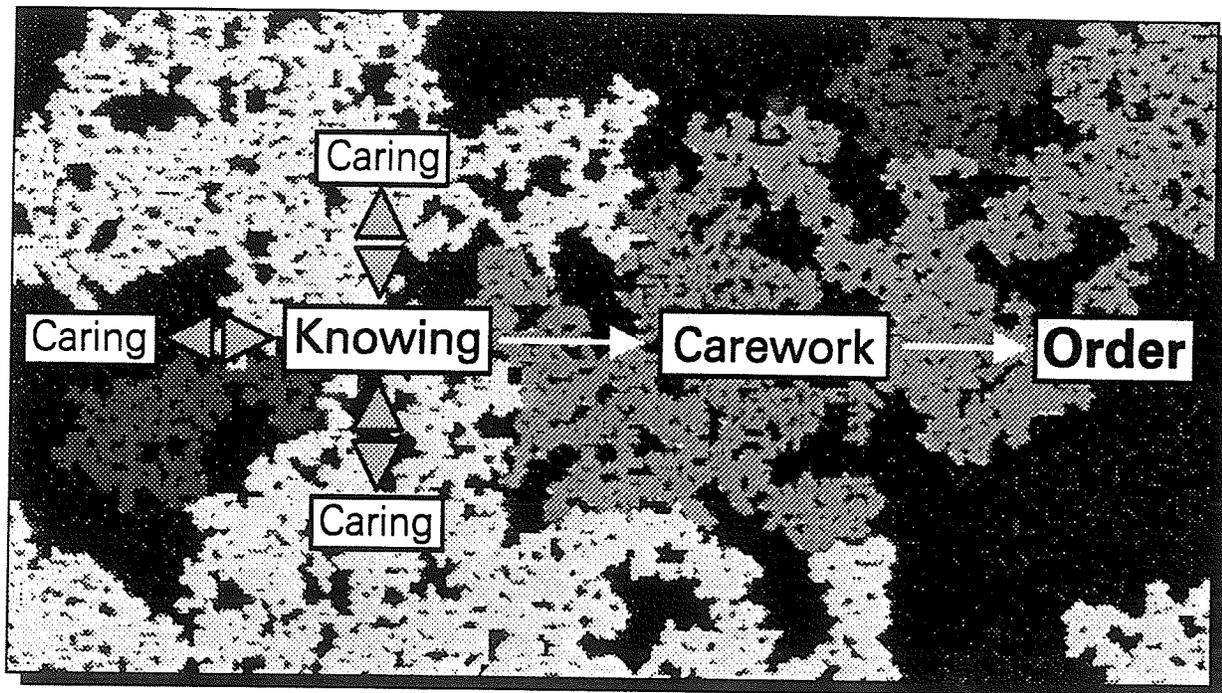
Conclusion

The inter-relatedness of the themes were embedded in the findings of this research. Knowing and caring were connected and impacted on one another. The product of these two components was Carework. The essence of carework was to create order within a chaotic environment. (See Figure I for a schematic representation.)

Figure 1

Inter-relatedness of themes

Human-Environment Relationship



◀▶ Contextual Variable

CHAPTER FIVE

Introduction

In this chapter, the findings of the investigation are discussed and analyzed. Implications of the findings for nursing practice, education, and administration are presented. Recommendations for future studies will follow. Discussion of the significance and limitations of the study complete this chapter.

The purpose of this investigation was to explore and interpret the lived experience of the emergency nurse. To this end the research questions included:

1. How is the practical knowledge demonstrated in emergency nursing practice? and,
2. How does the emergency nurse make clinical decisions?

The philosophic framework and the research methods selected to achieve this purpose provided a rich description of the perspectives of the six participants. The philosophical framework

will be discussed as to its importance to the study in this chapter.

Relevance of the Findings to the Literature

Relevant literature has addressed decision-making theories which explain some, but not all, of the emergency nurses' practice. The study revealed that the chaotic, complex, and uncertain nature of the environment has a profound impact on the way nurses in emergency departments make a decision and care for patients. The phenomenon is not captured in the traditional theories of decision making.

There is a paucity of literature that addresses the impact of environmental systems on individuals' decision-making processes. Further, none of the existing theories of decision-making effectively capture the lived experience of emergency nurses. Hence, decision-making theories require reformulation to address the nature of emergency nursing practice. The following section will detail the similarities and incongruences between decision-making theories and the research findings.

The findings will be discussed according to the three main themes presented in chapter four: Knowing, Care and Care Work, and the Human-Environment Relationship. This section will reflect the inter-connectedness of each theme. During the study, the need to extend the literature search to include other areas of information became apparent. In order to fully explore the nature of emergency nursing practice, the researcher studied the literature that addressed the themes, Caring and Care Work, and the Human-Environment Relationship. This literature helped to interpret and understand the meaning of emergency nursing practice.

Knowing

Clinical judgment and decision-making is without a doubt the quintessence of nursing. How nurses process what is happening in a given patient situation is the trait that establishes the character of professional nursing practice. If nurses know what observations are important, (know) how these observations reflect the person's health, (know) which other factors may alter the judgment made about the observation, and (know) how to use ones clinical judgment in effective interaction with professionals in the health care system, then nursing will emerge as standing with the patients at the apex of health care by the year 2000.

(Roy, 1987, p. 42)

It is suggested in the research findings that the emergency nurses under study knew how to make immediate and often life sustaining decisions based on rapid focused assessment, expeditious analysis of the information, often without a complete data base and under pressure of time. This usually took place under conditions of uncertainty and affected multiple patients simultaneously. The pace was dynamic and ever changing in the emergency department.

The complexity of the diagnostic process is a source of wonder to many professions (Barrows & Tamblyn, 1980; Corcoran, 1986; Elstien, et al, 1978; Newell & Simon, 1972; Tanner et al, 1987). However, not one study was located which addressed decision-making in the context of an emergency environment where limited time, unpredictable numbers of patients, varying levels of acuity, climates or chaos, fragmented and cyclic processes, and intense degree of uncertainty, play a major role.

This study reflects that decision-making strategies are contingent on the degree of uncertainty that exists within the environment.

(Figure II and III). It also suggests that decision making in the emergency environment is fluid and moves along a continuum (Figure IV). The participants used decision-making strategies along this continuum becoming less analytical and more intuitive as the environment became more uncertain and chaotic.

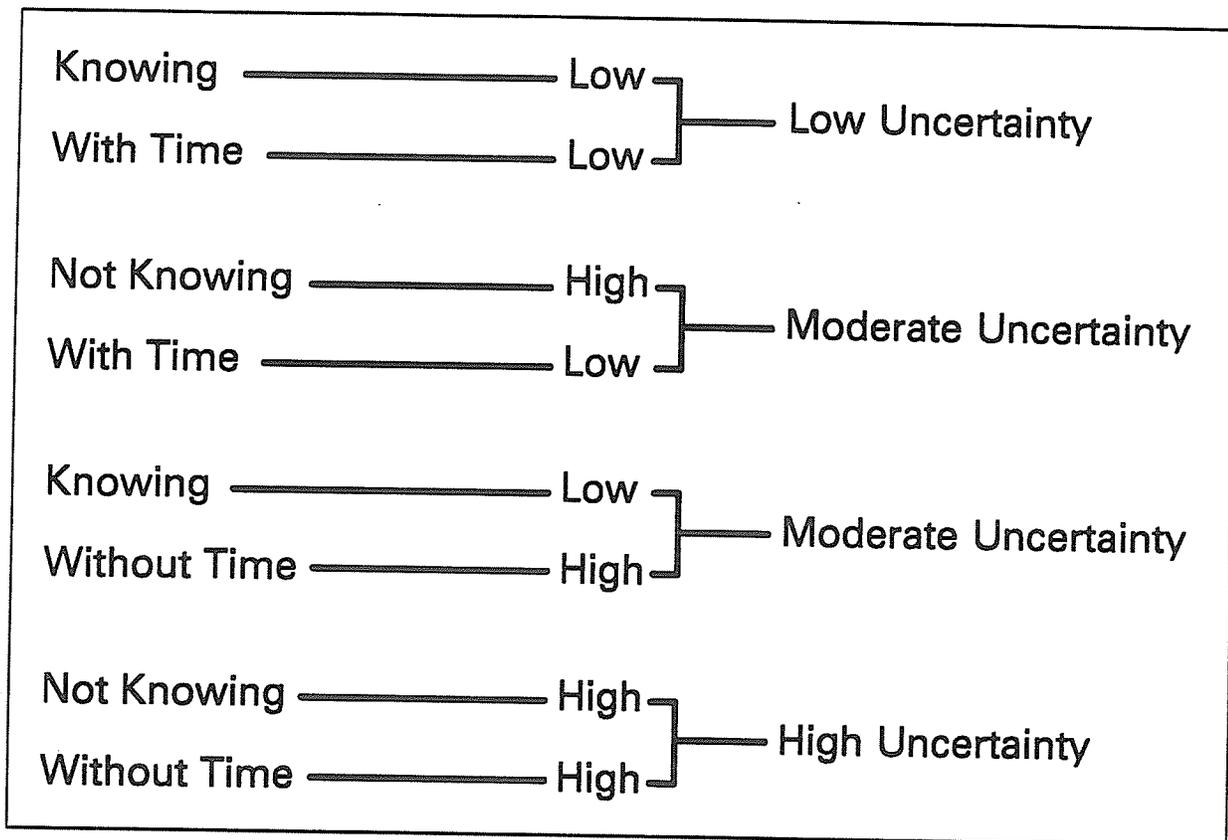
*Figure II***Emergency Nursing & Contingency Decision Making in Context**

Figure III

Contingency Framework for Decision Models in Emergency Nursing

The decision making structure is contingent on the state of the emergency environment. Prominent decision models will dominate given the situation. However, decision making models are not mutually exclusive to individual cells rather the cells are permeable.

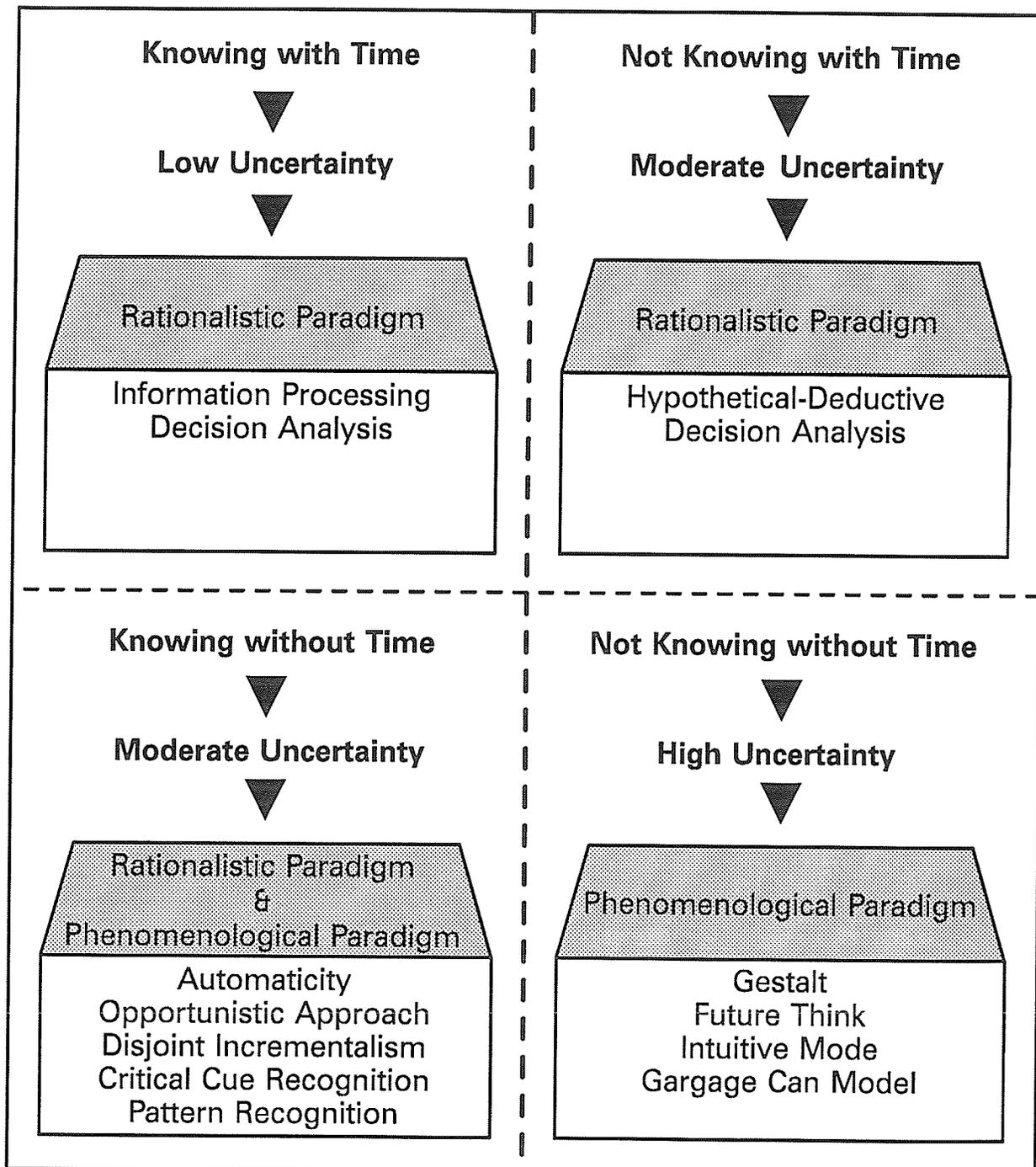
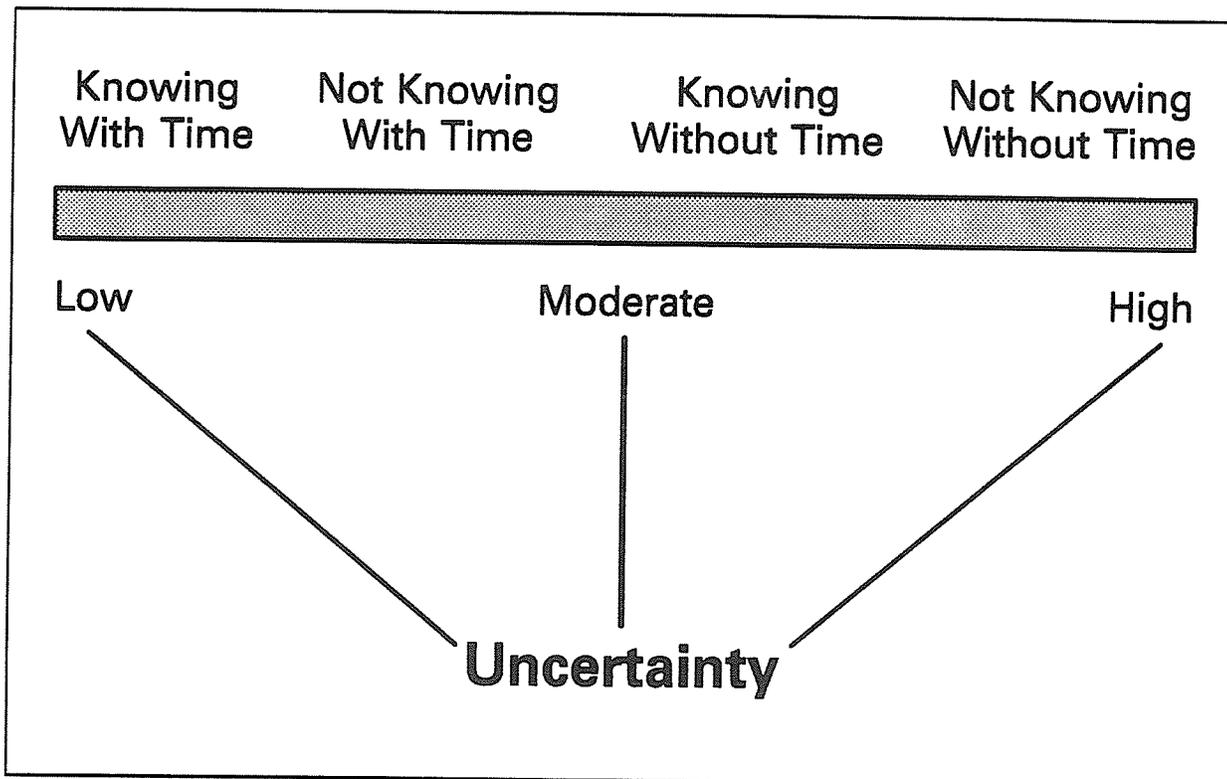


Figure IV**Decision Making Continuum in Emergency Nursing**

Contingency Framework and Decision Making Strategies

Knowing the environment was central to the decision-making strategies employed by the participants. Methods of decision-making were observed to be dependent on the degree of uncertainty related to the patient's condition and the pressures of time. When the emergency nurse had a clear sense of the patient's problems and, if time was not a major factor, the participants used decision-making processes that were reductionistic. From a rationalistic perspective, the participants made decisions based on rational and logical thought, mediated by cognitive processes and generalized decision-making strategies; information processing and hypothetical-deductive methods. This finding is consistent with studies in cognitive psychology; (Broadbent, 1953; Craik & Lockhart, 1972; Gray & Weddenburn, 1960; Miller, 1956; Newell & Simon, 1972; Simon, 1957; Von Bommel, 1986), medicine (Barrows et al, 1982; Barrows & Tamblyn, 1980; Barrows & Bennett, 1972; Elstien, Shulman, & Sprafka, 1978; Elstein, Kagan, Shulman, Jason, and Loupe, 1972; Kassirer & Gorry, 1978; Norman et al, 1985) and nursing (Aspinall, 1979; Baumann & Bourbonnais, 1982; Bourret, 1987; Corcoran, 1983 &

1986; Grier, 1984; Hammond et al, 1967a, 1967b, 1967c; Shamain, 1991; Tanner, 1983; Tanner et al, 1987).

The element of time was an important variable in emergency nurses' decision making, even when uncertainty remained high. The luxury of time allowed the participants to search the data field for cues, selectively filter unimportant data, interpret the cues logically, make a hypothesis based on the interpretation, and evaluate the hypothesis with a degree of certainty. This process was observed only if other contextual variables remained stable; ie, the patient's acuity remained stable. The process of decision making became harder for the researcher to trace and the participants to articulate as the environment became more chaotic. This does not mean that decisions were not made; merely that the decision-making process was difficult to capture.

The process of triaging required a great deal of skill. Characterized as "the front line", triage was fast paced and required the participants to rapidly assimilate increments of environmental data, and make an effective decision

under varying degrees of uncertainty. The literature suggests (Concoran, Narayan, & Moreland, 1988) that triage nurses make decisions based on textbook knowledge, practical knowledge, and "rule of thumb". Ackers, (1991) states that algorithms can guide the management of clinical problems and facilitate decision making by nurses. What the literature fails to address and what is demonstrated in the research findings is that decision analysis requires time to make a decision; more time than the practitioner may have. Phone triage was an area of practice where the participants believed that protocols about "how to's" would be beneficial. However, if the nurse was busy or if he/she was not sure about the patient's problems, algorithms were not used because to do so would be considered poor time management. Aspinall and Tanner (1981), concluded that nursing has few areas that can provide objective probabilities, due to the multiple variables attached to human response. Thus, the usefulness of decision analysis is limited in nursing. Even when the participants were confident about their decisions related to triaging the patient, they knew they could never control for the multiplicity of responses that could suddenly occur within the environment.

Therefore, due to time constraints and the uncontrolled nature of human response, the decision analysis decision-making model had limited use in the field for the emergency nurses under study.

Knowing without time was observed in the resuscitation room. This phenomenon existed when a patient was known to have a cardiac arrest. The degree of life threat and the urgency of the treatment in this situation dictates that there is not time for extensive counsel or reflection by staff. During these times, the participants became task oriented, focused and "automatic", almost robot-like in nature. This phenomenon was identified in the literature and referred to as, "high arousal states" (Bachrach, 1970; Egstrom, & Bachrach, 1971), "automaticity" (Leberge, 1975), "hot situations" (Fenton, 1987; Janis & Mann, 1977; Phillips & Rempusheski, 1985), and knowledge embedded in expertise (Benner, 1984). Decision-making processes in this type of a situation where cyclic and convoluted, making the processes hard to identify. However, it was apparent that, in critical situations, the task itself was the major determinant of decision making. This is consistent with a study by Hayes-Roth and Hayes-

Roth (1979) which reported that tasks fraught with complexity and uncertainty do not lend themselves to simple linear processes. Rather, an opportunistic approach to decision-making is used which frees the clinician from the burden of maintaining a rigid decision-making framework. It allows for variety and fluidity within a variety of alternatives. Hallmark nursing studies by Corcoran (1983, 1986) compliment the findings of this research. The relationship between the task complexity and the decision-making process varied from case to case in this research study; in cases of greater complexity, the nurse used an opportunistic approach.

Knowledge specific to clinical practice, experience, and familiarity with clinical scenarios increased the participant's ability to make decisions. This finding is consistent with the literature (Barrows & Tamblyn, 1980; Barrows & Feltovich, 1987; Baumann & Bourbonnais, 1982; Baumann & Deber, 1987; Elstein et al, 1978; Kassirer & Gorry, 1978; Kim, 1983, 1984, 1987; McGuire, 1985; Mitchell, 1977; Tanner, et al, 1988). However, the literature did not address the impact on decision making when time is limited and uncertainty pervades the environment.

The participants stated that when you do not have time, you base your assessment and evaluation on the "critical signs" that demonstrate stability or instability. This form of decision making, (i.e., critical cue recognition and pattern recognition) is addressed in the literature, consistent with the findings of this study (Baumann & Deber, 1983a, 1982b, 1984, 1989; Benner, 1984; Bourbonnais & Baumann, 1985; Elstein et al, 1978; Gail & Marsden, 1982; Gordon, 1982; Henry, 1991a, 1991b; Kim, 1983, 1984, 1987; Kuipers, Moskowitz, & Kaissirer, 1988; Mitchell, 1977; Norman et al, 1985; Pyles and Stern, 1983).

When environmental conditions were turbulent (ie, a "99" situation), the participant would move away from problems rather than towards goals. The literature referred to this as "disjoint incrementalism" or the science of "muddling through" (Lindblom, 1959, 1965, 1968). According to this concept, decision makers act in a remedial fashion. Only marginal alternatives and fewer consequences are considered. The focus is the outcome, but the process goes step by step in a serial fashion; making an incremental change, interpreting the feedback, making another change

and so on. This is typical of the way in which the participants processed decisions in moderate to highly uncertain situations without time.

When the participants encountered a highly complex situation where there was maximum uncertainty and no time, certain behaviours were observed. A degree of confusion was pervasive, and the problem solvers (under study) made active interpretive, or evaluative responses to any clinical information as soon as it was encountered. There was action before rational, analytic thought. This intuitive way of knowing was common in the practice of the participants. This other way of knowing appeared most often in ambiguous, complex, and highly uncertain situations.

Cognitive inferences appeared to occur spontaneously in situations where there was high uncertainty and no time. This was most obvious at triage, as the nurse dealt with multiple situations simultaneously. During these chaotic times, the emergency nurse had a sense of the whole. This salience enabled the participant to activate high risk decisions: eg., call a "99".

"Gestalt intuition" played an important role in the practice of the emergency nurses. This gestalt enabled the emergency nurse to search for those missing pieces of data, or detect gaps in information. In an environment where so much of the data is unknown, this gestalt is crucial in solving complex problems.

The participants spent much time collecting, validating, monitoring, and maintaining the data base. This activity was found to assume increased significance as the uncertainty increased and time was critical. During this chaotic time, the participants used patterns and relations in context to help them guide their decisions. Future think, or the ability to anticipate a problem before it occurred, was a strategy that was frequently employed by the nurses under study. This intuitive phenomenon parallels studies conducted with critical care and home care nurses by Rew (1986, 1988). The themes that were congruent are:

1. data was gathered to support intuition;
2. nurses tried to validate or corroborate their intuitions; and
3. nurses performed specific interventions on behalf of the patient due to a sense of assumption ... a future think.

The Context of Decision Making in Emergency
Nursing

The participants' decisions were not made in a context free way; nor were decisions isolated from the uncertainty of the emergency arena. Phenomenological philosophy suggests that there are limits to the use of formal strategies that dissect clinical judgment without addressing the context within which the action occurs (Benner, 1984; Benner & Tanner, 1987; Benner & Wrubel, 1988; Dreyfus & Dreyfus, 1979; Heidegger, 1927, 1962).

The patterns and events of the emergency department had a profound effect on the way the participants made decisions. The findings suggest that the participants were sensitive to environmental flux, such as whether the department was stable or unstable, simple or complex, the extent of turbulence (motion and noise), and the amount of appropriate staff available to support the environment.

The uncertainty pervading the emergency environment was due to the lack of information about environmental factors and the difficulty

predicting external charges. The literature that best addressed decision making in uncertainty was found in Administrative Sciences. Duncan (1972) and Dess and Beard (1984) state that characteristics of the environmental domain that influence uncertainty are: the extent to which the external environment is simple or complex, and extent to which events are stable or unstable.

Jurkovich, (1974) described complexity in a complex environment as a large number of diverse external elements interacting with and influencing the organization. Further, Dess and Beard (1984) defined the concepts of "stable-unstable" as the degree to which the elements in the environment are dynamic. An environmental domain is stable if it remains the same over a period of a month to a year. Under unstable conditions, environmental elements shift abruptly, causing unpredictable events to create an unanticipated reaction. This ultimately will result in hyperturbulence that leads to chaos (McCann & Selsky, 1984).

The literature in Administrative Sciences support the findings of this study; the degree of environmental uncertainty (complexity

and instability) had a direct impact on the way the participants processed information and made a decision regarding emergency nursing practice issues. An understanding of the theory of uncertainty is key in order to understand and interpret the role of the emergency nurse and emergency nursing practice.

The dimensions of uncertainty are ambiguity, vagueness complexity, lack of clarity, inconsistency, multiple meanings, lack of information, and unpredictability (Mishel & Braden, 1988; Norton, 1975). The perception of uncertainty relies on a cognitive structure (Cziko, 1992). A cognitive structure is a subjective evaluation an individual has about an event or situation which influences decision making and resultant performance. A cognitive structure is a perception of the "real" lived experience (Mishel & Braden, 1988). Uncertainty hampers the formulation of a cognitive structure which, in turn, limits a person's ability to adequately appraise a situation (Mischel, 1981). When an event is uncertain, it is evaluated as a threat because one does not know what is about to occur. Shalit (1977) suggests that the ambiguity factor in uncertainty has the highest threat

potential of all situations because it makes locating harm difficult and impedes coping. This study begins to identify how some emergency nurses cope when faced with situations of high uncertainty within a chaotic environment.

The contingency decision-making framework addresses two dimensions of emergency nurses' practice identified in this study: knowing and time. Figure III shows how knowing and time influence the degrees of uncertainty in a decision situation. Figure IV represents how the degree of uncertainty within the environment influences the way in which the emergency nurse makes a decision along a continuum. The philosophical framework was instrumental in allowing for the lived experience of the participant to be interpreted and described using a contingency framework. The framework is referred to as a contingency because the emergency nurses' decision making is dependent on something that is not yet certain or dependent on an uncertain event.

Summary

The major findings related to decision making in emergency nursing suggest that there are a variety of methods employed by the participants to solve different levels of problems. When uncertainty was low and time was available, rationalistic modes of inquiry were more likely to be used to solve problems. With increased uncertainty and decreased time, there was less emphasis on rational approaches to decision making and more use of practical knowledge and intuitive judgment.

The act of decision making for emergency nurses appears to be a fluid process wherein a linear framework does not exist. The contingency framework provides a foundation for understanding how the emergency nurse makes decisions along a continuum. At one end of the continuum, knowing and time exists and at the other, not knowing without time occurs. The participants' decision-making scope spans the continuum. How the decision is made will depend on the context of the environment.

Care and Care Work

The major finding in this research related to care and emergency nursing care work centres around the participants' need to create order and structure in the emergency environment in order to make accurate and efficient decisions. Making decisions based on knowledge and in the context of care provided a foundation for order to exist within the chaotic environment of emergency. The perception of "order" allowed the nurse to optimize performance and create a safe environment for the patient. "Placing order" was the primacy of care in emergency nursing.

Order and structure was embedded in "quantum-care" and the "in-between" role of the participants. Bishop and Scudder (1990) developed the thesis that the in-between stance or what is referred to as, dialogical care, is one fundamental structure of nursing practice. The other is the nurse's exercise of legitimate authority, the focus being primarily on the nurse-patient relationship.

Benner (1984) describes the nurse's legitimate authority as competencies and

excellence of nursing practice. Benner and Wrubel (1988) suggest that the enabling condition of connection and concern is what constitutes the primacy of care. The participants in this study were able to discern problems quickly, recognize possible solutions, and to quickly act on the patient's behalf. This study's findings complement Benner and Wrubel's work (1989) by confirming that emergency nurses care by implementing a certain level of control over the environment. In the study, patient care was not very often observed in the traditional sense ie, covenant between the patient and the nurse. Cooper (1988) believes a covenant is an agreement entered into by both parties. The participants believed that not all emergency patients enter into such an agreement. Patients often neither trust the nurse nor work cooperatively to foster their own well-being. If that is so, does the emergency nurse not care for and about the patient? The findings of the study suggest that the nurse continued to be concerned (show some degree of intentionality) in the absence of any covenant agreement. Further, they intentionally continued to be the in-between and represent the patient within the system.

If the emergency environment is chaotic, is it reasonable to expect the emergency nurse to connect with all the patients in her/his care? Available time, manpower, intentionality, and an inadequate physical setting were factors that the participants cited as barriers to achieving a covenant relationship with more patients.

The findings suggest that various approaches to caring existed. A range of possibilities were displayed by the participants. The traditional relationship, one of a covenant (Cooper, 1988) where nursing focuses on the nurse-patient relationship, was present at times. A covenant relationship fails to adequately articulate emergency nursing as it is practiced. The concept of caring is extended in emergency nursing to include a dialogical relationship (Bishop & Scudder, 1991; Chinn, 1991; Jacques, 1993). Dialogical care focuses the nurse-patient relationship on fostering the well-being of the patient. Rather than being a substitute for the nurse-patient relationship, dialogical care extends the caring relationship between nurse and patient beyond the relationship to what Gilligan (1982) calls a "web of connection". She defines a caring relationship as, "an activity of

relationship, of seeing and responding to need, taking care of the world by sustaining the web of connection so that nothing is left undone and no one is left alone" (p. 62). The image of a web helps one to visualize the "structure of interconnection" between the emergency nurse, and the environment of which the patient is a part. The in-between stance of the emergency nurse is rooted in the web of connection.

The emergency nurse's function is to maintain the connection between the patient, the family, the hospital system, the community and the physician, thus creating order and a structure under conditions of uncertainty. Such connection is made on behalf of the patient and helps to put order into an often confusing environment. Benner's research (1984) has assumed that the lived experience of nurses is largely decision making. However, this study reveals that emergency nurse's lived experience is an interconnection between the context of practice and decision making.

The participants perceived a loss of control when there were multiple stimuli and extraneous variables that they were unable to make

sense of or felt powerless to control. Characteristics affecting perceptual control (Cziko, 1989; Powers, 1973) were found in the fluctuating status of the external environment, and/or the emotional state of the participant. Continual exposure to uncertainty (ie, triage or resuscitation) appeared to affect the participants' perception of control. If they felt that "things" were out of control, they attained a highly aroused state. This state of arousal decreased their ability to directly act and encouraged vigilance and avoidance. Mischel (1980) states that a high degree of uncertainty over a period of time decreases one's ability to engage holistically. The participants' agreed that shift after shift of "craziness" was exhausting.

To an outsider, the emergency department may have seemed totally disorganized but, to the participants, all was in order. It was the participants' perception of reality that was a key factor; if they perceived all was under control then they were able to create "windows of order" (Gleick, 1987).

Human-Environment Relationship

The parent theory of chaos can be used as a means of explicating knowledge concerning the complexity of the human-environment relationship. Chaos theory is a powerful metaphor, used by this study to increase understanding of the phenomena; the practice of emergency nursing.

In this study, it became increasingly clear that the manifestations of the human and environmental fields were so interrelated that it was difficult for emergency nurses to talk about them separately. Content from one theme was also relevant to discussion of another. The human-environment relationship in emergency nursing practice was described as a chaotic environment and the nurse who creates order within. Similarly, Rogers (1970) suggests that human beings and the environment are in continuous, mutual process and cannot be separated into parts but can only be experienced as a whole.

Chaos theory is an able theory to help describe emergency nursing practice. The elements of the theory embodies the essence of emergency nursing: uncertainty (the environment) and order (the nurse).

The concepts of chaos theory differ from traditional science in stability, order, uniformity, equilibrium, and concern with closed systems and linear relationships. Chaos theory shifts attention to disorder, instability, divergency, disequilibrium, nonlinear relationships and temporality which are part of the variability of a healthy system (Pool, 1989).

The meaning of the word, "chaos" is not the same as chaos in the dictionary sense of complete disorganization or randomness. The theory states that chaos refers to a constrained kind of randomness and over time there is pattern and structure created (Goldberger & West, 1990).

Chaotic processes are complicated and unpredictable. They result deterministically from the way the system regulates its process rather from random fluctuation (Gleick, 1987). In other words, chaos provides a healthy variability in a system's response to a variety of stimuli. The emergency environment can be described as possessing deterministic randomness since it stays within certain limits and behaviour appears random.

Chaos deals with other concepts such as "far from equilibrium systems". In far from equilibrium conditions, the sensitivity of the initial system is so great that small changes can cause huge effects overall. Fluctuations in the system can be so dramatic that they shatter the pre-existing organization. However, the system can reach a threshold or a bifurcation point when conditions of uncertainty are critical. At the bifurcation point, the system becomes unstable. In the emergency this concept can be felt when many variables are highly uncertain. Two types of events could throw the emergency department into instability; sudden or cumulative critical events over time.

Entropy, in chaos theory, refers to the degree of disorder or disorganization in the system. As entropy increases, it may surpass the ability of the system to integrate the disorder. The system, at this bifurcation point, may appear highly unstable, but instability is only at a macroscopic level. At the microscopic level the fluctuations show patterning and structure. Entropy is the ancestor of order. This becomes the starting point for the formation of new

organization. This new organization maintains itself by exchanging disorder with order.

The theory of chaos extends the understanding of emergency nursing practice by incorporating the emergent themes: Knowing, Caring and Human-Environment Relationship. This reconceptualization presents a new view for emergency nursing practice.

The Theory of Chaos and Emergency Nursing Practice

Knowing, caring, and the relationship that the nurse has with the emergency environment are interconnected. Knowing and caring is fundamental to decision making in emergency nursing practice. Decision making is highly contextual and does not hold to any one theory. Rather, the emergency nurse makes decisions along a continuum, contingent on the status of the environment. Creating order in the environment for the patient is primary for the emergency nurse. Caring provides the energy by which order evolves out of disorder. Knowing and caring are interrelated. One could not know without caring, nor could one care without knowing. Knowing and caring are complementary aspects of being in emergency nursing. Care work is the product of

knowing and caring. The primacy of care work for emergency nurses is to order the emergency environment.

The emergency system and the theory of chaos are compatible. The emergency environment is constantly at a far from equilibrium state. Entropy is inherent in the disorder and disorganization in the emergency system. As entropy increases, it may surpass the ability for the emergency system to integrate the disorder. If the emergency system becomes hyperturbulent, it will reach a critical or bifurcation point. At the bifurcation point, the system becomes unstable. It is unknown what will occur in the emergency system when it reaches bifurcation. However, the outcome may be influenced by the history of the system as well as boundary conditions. Boundary conditions in an emergency can be regulated by policy and physical space.

At the point of bifurcation, instability may only be detected at a macroscopic level. It may seem completely overwhelming to the "outsider". At a microscopic level, the behaviour of the patient and staff are fluctuating but show pattern and order. In what appears to be random,

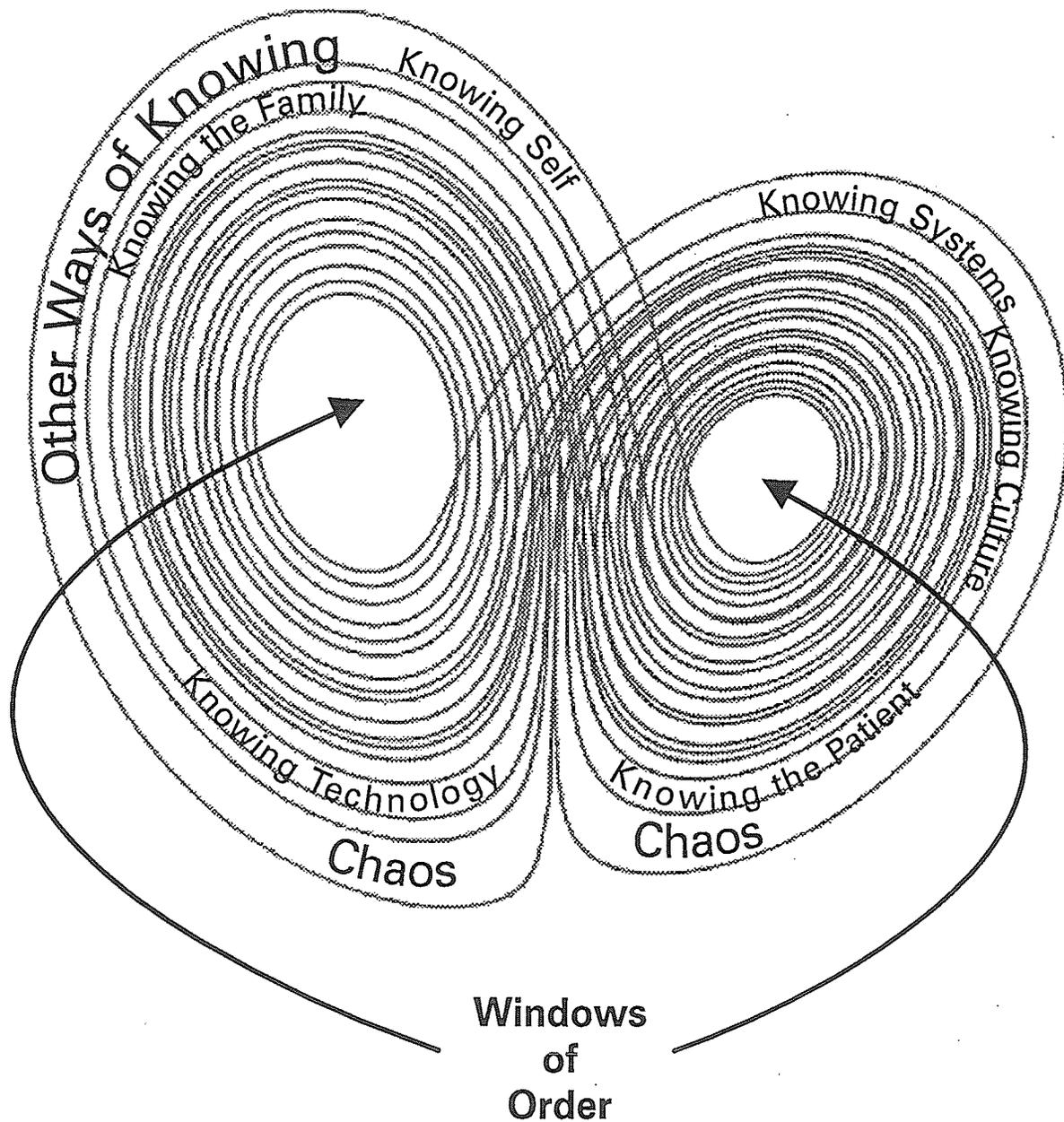
the nurse causes self-organization to occur. This self-organization is the starting point for the formulation of new forms of organization that maintain themselves by exchanging disorder for organization. The uncertainty that earlier in the system was the source of fluctuation and disruption later becomes the foundation on which a new sense of order is constructed.

Conclusion

The study suggests that the emergency environment is the driving force behind the way nurses make decisions and organize care. An argument has been made for the interconnectedness of the research themes with the uncertainty of the emergency environment. Chaos envelopes all the elements of uncertainty. Therefore, Chaos Theory assists in the interpretation and description of the practice of emergency nursing. (See schematic, Figure V for visual representation.)

Figure V

Theory of Chaos and Its Adaptation to Emergency Nursing



Implications and Recommendations of the Study

This section of the chapter will address the implications of the study on emergency nursing practice, education, and administration followed by recommendations for future research studies. A discussion of the significance of this study and the limitations of the research will follow.

Implications for Emergency Nursing Practice

Theory derivated will help to describe for the first time the uniqueness of emergency nursing practice. This new view of emergency nursing practice allows for boundary definition. These boundaries clearly delineate the differences and similarities of the emergency nurse and the uniqueness of nursing in this specialized area.

No other nursing practice setting lives with the force of chaos, like emergency. Understanding that the emergency environment is inherently chaotic will allow the practicing emergency nurse to participate in the development of systems that complement the environment and address the unique practice of living with

continual uncertainty. The following suggestions may aid the practicing emergency nurse to feel more in control of the emergency environment: physical space that allows for control of unpredictable occurrences, documentation tools that are easy to use and do not hamper care work, process standards that reflect actual practice, an empowering environment that promotes shared governance and lobbying for educational programs that incorporates specific emergency nursing knowledge and skill. Given that the emergency nurse is interconnected to the emergency environment and the emergency environment is chaotic, then any system that the nurse employs should be user-friendly. User-friendly systems foster the necessary structure that emergency nurses require. Systems like computer programs that are simple and provide information quickly will serve to lessen disorder and facilitate care work.

Emergency nurses can and should understand and be able to articulate their unique role and function within the hospital and to the community. This will decrease the comparison to other areas of the hospital and increase hospital administration's understanding of the uniqueness

of the emergency environment. Such knowledge will be useful in planning for staffing of emergency departments, as well as meeting the needs of emergency nursing staff and patients.

The researcher identified that the emergency environment influences the way emergency nurses make decisions. Given factors related to the uncertain environment, the decision-making process spans a continuum. Further, it was identified that uncertainty is perceived as controllable when the nurse feels comfortable with specific knowledge and skills. Emergency nursing is best understood by those who practice it. Therefore, practicing emergency nurses should lobby government for specific programs that address competencies related to emergency nursing knowledge and skills. At the present time there are 13 emergency nursing programs across Canada, however, Manitoba does not have such a program in place. Emergency nurses will empower themselves and promote their specialty when they are the driving force behind specialty emergency nursing program development.

The subculture of emergency nursing should embrace the concept of uncertainty and

chaos. The realization that uncertainty and chaos is an unescapable reality in emergency nursing will help the practitioner accept a probabilistic paradigm (Allen, 1985). In a probabilistic paradigm, the uncertainty is viewed as natural. Accepting uncertainty, opens the door to considerable possibilities and can allow for growth. Probabilistic thinking may help the emergency nurse accept the human condition in order to care more effectively. The emergency nurse may be more prepared to identify when work related stress begins to resemble posttraumatic stress disorder (Green, Grace, & Lindy, 1988). Probabilistic thinking should be taught within a formal post basic specialty course and reinforced in orientation and continuing education programs for emergency nurses.

This study has identified that the role of the practicing nurse in the emergency system is essential in the organizational structure. The emergency nurse maintains the order and structure within a very uncertain, complex, and chaotic environment. It becomes imperative that the emergency nurse recognize the value and legitimacy of his/her own voice. In addition, connections must be made between issues related to everyday

work and the communities that the nurses serve, eg., working with the poor and disadvantaged, or young trauma victims due to drinking and driving. Questioning and challenging status quo requires bold actions. To do so demands a collective identity; one that will convey confidence, understanding, and personal control to the practicing emergency nurse.

Implications for Education

The human-environment relationship that exists between the emergency nurse and the emergency environment must be the underpinning for any educational curricula specific to the specialty of emergency nursing. The curricula needs to address theories related to uncertainty, complexity, chaos, perceptual control, and probabilistic thinking.

Orientation programs should allow time for the novice to become reasonably comfortable with conditions of uncertainty. The novice should be deliberately placed in situations where they perceive they have some control, since their decision-making repertoire may be limited. Placing the novice in situations of high

uncertainty and no time may be unsafe since he/she will not have had time to develop other ways of knowing. This person should participate in an orientation that allows for probabilistic thinking to evolve with experience and mentoring.

Continuing education for emergency nurses should be based on a variety of teaching methods. Given the nature of the environment, the emergency nurse must be able to think independently and make decisions effectively, especially under conditions of great uncertainty.

Clinical educators in emergency nursing should be experts in the practice field and fully understand the phenomena of emergency practice. They will be required to explain decision-making methods along the continuum as it relates to individual patients and departmental needs. The emergency nurse educator should role model care work within the settings; ie, creating order and structure for patients and the department.

Emergency nurse educators and continuing educational programs should include a novice to expert approach since decision-making processes may vary with levels of expertise. Levels of

competence will evolve in emergency nursing practice as the emergency nurse gains experience, knowledge and familiarity with the emergency environment. The educator of emergency nurses will need to be sensitive to individual needs and provide educational experiences accordingly. The experienced will require a higher level of educational exposure. Gestalt learning is defined in terms of the learner's perceptual world (Bigge, 1976). Other ways of knowing were identified as important attributes that were possessed by the participants. They used this gestalt to make decisions in highly uncertain situations. Therefore, the educator needs to employ teaching techniques (the narrative and story telling) that will nurture other ways of knowing and communicate the gestalt to the less experienced.

Implications for Administration

Administrators who are responsible for emergency nurses must have an appreciation for the world of emergency nursing practice. They need to be conscious of the relationship that the nurse has with the emergency environment and be supportive of it. Administrators should be able

to address the fundamental differences relating to emergency nursing on behalf of their emergency staff.

Given that the emergency nurse and the emergency environment are inter-connected, structure standards need to support this premise. The physical space should accommodate the chaotic nature of the department. Overcrowding will only increase uncertainty and make it more difficult for the emergency nurse to organize the emergency environment. Nursing systems should be streamlined and efficient. The emergency nurse requires a sense of perceptual control. Any extraneous request, eg., nursing diagnosis, may only clutter their world and alter their ability to create order and structure.

Adequate and appropriate staffing is an important feature. When all is so uncertain, trusting each other's abilities becomes the only certainty. Staffing ratios need to relate to the uncertain nature of the environment. Fluctuations of activity occur constantly and the workload does not remain constant. Therefore, manpower needs cannot follow traditional in-hospital staffing patterns. Rather, when staffing an emergency

department, the administrator should accommodate the worst possible scenarios, short of a disaster, and staff accordingly.

The administrator should understand the importance of "downtime" to staff working with continual uncertainty. Emergency nurses should be encouraged to take scheduled breaks and even sick time since it may renew their energy to care. Caring provides the energy by which order evolves out of disorder. Away time may prevent adverse behaviours that may manifest due to prolonged exposure to catastrophic uncertainty and unpredictability (Green, Grace & Lindy, 1988). Financial planning for emergency nurses may require that the administrator expect a greater supplemental budget to support emergency nurses needing "time out".

Due to the nature of the environment and the complexity of emergency care work, administrators need to recruit and hire nurses who have experience and knowledge related to working in continual uncertain environments. The expert will be able to organize the most far from equilibrium situations and easily adjust the constant flux in activity.

The argument has been made that emergency nurses engage in complex situations and make high level decisions. Hence, the voice of the emergency nursing has value and legitimacy. Administration and the practicing emergency nurse can become a collective force when solving practice issues. This participative management style would enhance the emergency nurses' perception of control (Jackson, 1992).

Recommendations for Future Research

Several topics have been identified as possible areas for future investigation. The nurses in this study were experienced in emergency nursing. The nurses in the study stated that it took time and more education in the specialty to feel comfortable making complex decisions. Further descriptive and interpretive research should explore the decision-making strategies of emergency nurses with minimal emergency experience. This type of study may also reveal a different lived experience than those more experienced nurses. Since this has never been studied before and this study could not address the inexperienced, extension to include the

beginner would provide a better understanding of emergency nursing practice. Another study should explore the differences and similarities between emergency nurses who have different formal educational preparation and the quality of decision-making strategies.

Benner (1984) states that not much is known about how nurses make decisions in emergency situations. This study has begun to address the question. A qualitative study to examine the nature of constant uncertainty on individual behaviours and group dynamics may reveal what strategies are effective in coping with this phenomenon.

The participants of this study suggest that taking sick time was a way to "survive" the stress. A combined qualitative and quantitative study may unveil the realities between sick time and exposure to prolonged periods of chaos.

Not much is known about how the patient responds to the chaos of an emergency department. Descriptions of actual patient scenarios can provide a basis for planning emergency nursing care. A narrative approach allows for rich

description of the experience and meaning associated with an unanticipated life event. Two questions may be posed:

1. What types of human responses do emergency patients manifest and how does that contribute to degrees of uncertainty within the environment; and
2. How does the integral human-environmental relationship facilitate the stability of the life threatened emergency patient and the family?

This study was conducted in a tertiary care facility in the city. A similar study using this study design should be replicated in a community hospital in the city and a rural and northern emergency department. This would provide a comparison of the existing phenomena in each.

This study identifies the interconnectedness of the nurse with the emergency environment. Specialized nursing education programs must link closely with the clinical area.

Experiencing real situations as they unfold in the best way for a novice practitioner to understand the connection and the phenomenon of chaos. Studies need to explore educational curricula to determine the specific needs of specialized practice. Realistic and valid programs will develop through action research studies.

Some of the questions in this regard may include:

1. Should probabilistic thinking be included in orientation, continuing education, and formal education programs for emergency nurses, and
2. Do existing nursing curricula reflect the realities of emergency nursing that incorporates theories describing emergency nursing phenomenon: ie, Theory of Uncertainty, Theory of Complexity, Theory of Perceptual Control and the parent theory, Theory of Chaos?

Significance of the Study

The significance of the study is associated with its importance to the generation of new knowledge. Benner and Wrubel (1982) believe that the first step in improving the quality of patient care is to document and adequately describe the "know how" of the experienced nurse clinician. Through interpretation and rich description, this research has contributed to the understanding of the actual practice of the emergency nurse. It provides a description that promotes understanding and support.

This study has addressed issues related to decision-making in conditions of uncertainty and has proposed an organizing framework (a continuum) based on the theory of uncertainty. The continuum incorporates decision-making theories from the rationalistic and the phenomenological paradigm.

The study has explored the meaning of emergency nursing practice and has extended the concept of care to include the significance of dialogical care and the in-between stance for

nursing. Dialogical care focuses the nurse-patient relationship on promotion of an ordered environment. This study allows for the interpretation of caring and care work appropriate for emergency nursing.

The phenomenological method contributed to a greater understanding of the "know how" embedded in the practice of the emergency nurse. During this journey towards a greater understanding, the researcher learned more about paradox and ambiguity and to value complexity, uncertainty and chaos, which are in existence, as the unique phenomenon of emergency nursing.

Limitations of the Study

The limitations of the study include:

1. Generalizability to other groups of emergency nurses in other settings is compromised because of the small sample size and nature of the study design.

2. Self-selected volunteer subjects may represent only a segment of the population being described and are not held to be representative or typical.
3. Self-selected volunteers did not include emergency nurses who had limited experience, ie, less than one year.
4. Self-selected volunteers did not include emergency nurses with university degrees in nursing.

Due to the nature of the volunteer group, the study was unable to capture information about emergency nurses with limited experience and those with different educational preparations.

5. This study only studied emergency nurses in an urban centre teaching hospital.

6. Qualitative methodology is subjective, difficult to replicate and thus, has limitations to the generalizability of the results.

Conclusion

Experience changes our knowledge, and, like life or chaotic dynamics, it is irreversible, nonlinear, and complex. Experience is not new when it is seemingly repeated. In re-experiencing, the "experiencing consciousness" has reversed its direction, that is, it has turned back on itself.

(Gadamer, Barden, & Cumming, 1975, p. 317)

Guided by the theory of chaos and the theory of uncertainty, the researcher was able to answer the research questions and provide a new understanding of emergency nursing practice. This study allows for the clarification of the actual practices of the emergency nurse through rich description and interpretation. Further, the study will help to generate new knowledge about emergency nursing as a specialty, thus contributing to a broader base for specialized practice to evolve.

This qualitative inquiry about emergency nursing practice may challenge the "status quo" and promote identification of new paradigms or direction of inquiry related to emergency clinical practice, education, administration and research.

REFERENCES

- Ackers, P. (1991). An algorithmic approach to clinical decision making. Oncology Nursing Forum. 18(7): 1159-1163.
- Adler, N., & Icenhour, M.L. (1993). Analysis through work sampling of the role of the emergency nurse. Journal of Emergency Nursing. 19(1): 28-33.
- Agan, D. (1987). Intuitive knowing as a dimension of nursing. Advances in Nursing Science. 10(1): 63-70.
- Agar, M. (1980). Hermeneutics in anthropology: A review essay. Ethos. 8(3): 253-272.
- Albert, D. (1978). Decision theory in medicine, a review and critique. Milbank Memorial Fund Quarterly Health and Society. 56(3): 362-401.
- Allan, P. (1990). Ritual mysticism and community in native american literature. The Elmwood Newsletter. 5(4): 3-6.
- Allen, A., Barnard, B., & Falk, W. (1973). A study of waiting time in an emergency department. Canadian Medical Association. 109: 373-376.
- Allen, D. (1985). Nursing research and social control: Alternative models of science that emphasize understanding and emancipation. Image: Journal of Nursing Scholarship. 17: 58-64.
- Allen, M. & Jensen, L. (1990). Hermeneutical inquiry meaning and scope. Western Journal of Nursing. 12(2): 241-253.
- Alvino, D. (1986). A caring concept: Providing information to make decisions. Topics in Clinical Nursing. 8(2): 70-76.
- American College Testing for the Board of Certification for Emergency Nursing. (1990). The role delineation study of emergency nursing. Chicago.

- Anderson, J. (1991). Reflexivity in fieldwork: Toward a Feminist Epistemology. Image: Journal of Nursing Administration. 11(1): 31-34.
- Anderson, J. (1991). Reflexivity in fieldwork: Toward a Feminist Epistemology. Image: Journal of Nursing Scholarship. 23(2): 115-118.
- Anderson, J. (1989). The phenomenological perspective. In J. Morse, (Ed.). Qualitative Nursing Research: A Contemporary Dialogue. Maryland: Aspen Publishers.
- Andren, K. & Rosenqvist, U. (1985). Heavy users of an emergency department. Social Science Medicine. 21(7): 761-770.
- Argote L. (1982). Input uncertainty and organizational coordination in hospital emergency unit. Administrative Science Quarterly. 27: 420-434.
- Aspinall, M. (1979). Use of a decision tree to improve accuracy of diagnosis. Nursing Research. 28(3): 182-185.
- Aspinall, M. & Tanner, C. (1981). Decision making for patient care applying the nursing process. New York: Appleton-Century-Croft.
- Atwood, J., & Hinds, P. (1986). Application of reliability and validity criteria to products of grounded theory. Western Journal of Nursing Research. 8: 135-154.
- Bachrach, A. (1970). Human behaviour and SCUBA diving. Chicago: The Institute for Behavioural Sciences.
- Barrows, H., & Feltovich, P. (1987). The clinical reasoning process. Medical Education. 21: 15-25.
- Barrows, H., Norman, G., Neufeld, V., & Feightner, J. (1982). The clinical reasoning of randomly selected physicians in general medical practice. Clinical and Investigative Medicine. 5: 49-55.

- Barrows, H. & Tamblyn, R. (1980). The clinical reasoning process: Problem solving in medicine. In H. Barrows & R. Tamblyn (Eds.). Problem based learning: An approach to medical education. New York: Springer.
- Bartolucci, G., & Drayer, C. (1973). An overview of crisis intervention in emergency rooms of general hospitals. American Journal of Psychology. 130: 953-960.
- Barton, D., & Sviokla, J. (1898). Putting expert systems to work. Harvard Business Review. March/April: 91-98.
- Baumann, A., & Bourbonnais, F. (1982). Nursing decision making in critical care. Journal of Advanced Nursing. 7: 435-446.
- Baumann, A., & Bourbonnais, F. (1984). Rapid decision making in crisis situations: A case study method for nurses. Toronto: McGraw Hill Ryerson.
- Baumann, A., & Bourbonnais, F. (1984). Decision making in critical care: Implementations for future development. In Hannah et al. Clinical Judgment and Decision Making: The Future With Nursing Diagnosis. New York: John Wiley & Son.
- Baumann, A., and Deber, R. (1989, Summer). The limits of decision analysis for rapid decision making in ICU nursing. Image. 21(2): 69-71.
- Baumann, A. and Deber, A. (1989). Decision making and problem solving in nursing: An overview and analysis of relevant literature. Faculty of Nursing, University of Toronto.
- Baumann, A., & Deber, R. (1987). Decision making in critical care: Implications for future development. In K. Hannah, M. Reimer, W. Mill, & S. Letourneau (Eds.), Clinical judgment and decision making: The future of nursing diagnosis. New York: Wiley.
- Behn, R. & Vaupel, L. (1982). Quick analysis for busy decision makers. New York: Basis Books.

- Belenky, M., Clinchy, B., Goldberger, N. & Tarule, J. (1986). Women's Ways of Knowing. New York: Basic Books Inc.
- Benner, P., & Wrubel, J. (1982). Skilled clinical knowledge: the value of perceptual awareness. Nurse Educator. 7(3): 11-17.
- Benner, P. (1983). Uncovering the knowledge embedded in clinical practice. Image: the Journal of Nursing Scholarship. 5(2): 36-41.
- Benner, P. (1984). From novice to expert: Excellence and power in clinical nursing practice. Menlo Park, California: Addison - Wesley Publishing Company.
- Benner, P., & Tanner, C. (1987). Clinical judgment: How expert nurses use intuition. American Journal of Nursing. 1: 23-31.
- Benner, P. (1989). Applied Heidegger Conference. September, 1989. San Francisco, California.
- Benner, P., & Wrubel, J. (1989). "The primacy of caring" Stress and coping in health and illness. Menlo Park, California: Addison-Wesley.
- Benner, P. (1991). The role of experience, narrative and community in skilled ethical comportment. Advances in Nursing Science. 14(2): 1-21.
- Benner, P., Tanner, C., & Chelsa, C. (1992). The beginner to expert: Gaining a differentiated clinical world in critical care nursing. Advances in Nursing Science. 14(3): 13-28.
- Berg, C. (1989). Clinical-nurse encounter in ambulatory health care settings. Unpublished manuscript.
- Bergum, V. (1989). Being a phenomenological researcher. In J. Morse, (Ed.). Qualitative Nursing Research: A Contemporary Dialogue. Maryland: Aspen Publishers.
- Berne, E. (1977). Intuition and ego states. San Francisco: Transactional Publications.

- Berner, E. (1984). Paradigms and problem solving: A literature review. Journal of Medical Education. 59: 625-633.
- Bevis, E., Murray, J. (1990). the essence of the curriculum revolution: Emancipatory teaching. Journal of Nursing Education. 29(7): 326-331.
- Bishop, A. & Scudder, J. (1991). Dialogical care and nursing practice. In: P. Chinn, (Ed.). Anthology on Caring. New York: The National League of Nursing.
- Board of Certification for Emergency Nursing. (1991). The role delineation study of emergency nursing. Chicago, American College of Testing.
- Boden, M. (1990). The philosophy of artificial intelligence. London, England: Oxford University Press.
- Bordage, G. (1984). Diagnostic error: Poor reasoning habits or ill structured knowledge. In H. Schmidt, Tutorials in Problem Based Learning. London: Oxford Press.
- Boyd, C. (1988). Phenomenology: A foundation for nursing curriculum. In: Curriculum Revolution: A Mandate for Change. New York: The National League for Nursing.
- Boykin, A., & Schoenhofer, S. (1991). Story as link between nursing practice, ontology, epistemology, Image: Journal of Nursing Scholarship. 23(4): 245-248.
- Bibb, B.N. (1982). Comparing nurse practitioners and physicians. Evaluating and the Health Professions. 5(1): 29-42.
- Bishop, A., & Scudder, J. (1990). The practical, moral, and personal sense of nursing: A phenomenological philosophy of practice. New York: State University of New York Press.
- Bourrett, E. (1987). Clinical diagnostic reasoning: A research methodology. In K. Hannah, Clinical Judgment and Decision Making: The Future with Nursing Diagnosis. New York: John Wiley & Sons.

- Broadbent, D. (1953). Speaking and listening simultaneously. Journal of experimental psychology. 43: 267-273.
- Broaderick, M. & Ammentorp, T. (1979). Information structures: Analysis of nursing performance. Nursing Research. 28: 106-110.
- Bruner, J., Goodnow, J. & Austin, G. (1956). A study of thinking. New York: Wiley.
- Brykczynski, K. (1985). Exploring the clinical practice of nurse practitioners. (Doctoral Dissertation, San Francisco University School of Nursing). Dissertation Abstracts International. 40(5).
- Budassi - Sheehy, S. and Barber. (1985). Mosby's manual of emergency care practices and procedures. St. Louis, C.V. Mosby Co.
- Budassi - Sheehy, S. (1985). Mosby's manual of emergency care practices and procedures. St. Louis: C.V. Mosby Co.
- Burgess, R. (1984). In the field: An introduction to field research. London: Allen and Unwin.
- Buschiazzo, L. (1987). Patient classification in the emergency department. Journal of Emergency Nursing. 19(7): 8.
- Butler, W. (1986). ED classification matrix: Development and testing of one tool. Journal of Emergency Nursing. 12(5): 279-285.
- Calkin, J. (1984). A model for advanced nursing practice. Journal of Nursing Administration. (1): 24-30.
- Calkin, J., & Gulbrandsen, M. (1978). Nursing Practice decisions in emergencies: A course and how it was defined. Journal of Nursing Education. 17(9): 30-39.
- Calnan, M. (1984). The functions of the hospital emergency department. A study of patient demand. Journal of Emergency Medicine. 23: 894-912.

- Canadian Nurses Association (1983). Ethical guidelines for nursing research involving human subjects. Ottawa: CNA Publications.
- Canadian Nurses Association (1986). Designation of Special Care Areas. Ottawa: CNA Publications.
- Canadian Nurses Association (1991). Document on Certification of Emergency Nursing. Ottawa: CNA Publications.
- Carnevali, D., Mitchell, P., Woods, N., & Tanner, C. (1984). Diagnostic reasoning in nursing. New York: J.B. Lippincott Co.
- Carpenito, L. (1987). Nursing diagnosis in critical care: Impact on practice and outcomes. Heart and Lung. 16(6): 595-615.
- Carper, B. (1978). Fundamental patterns of knowing in nursing. Advances in Nursing Science. 1(v): 13-23.
- Cebul, R., & Beck, L. (1985). Teaching clinical decision making. New York: Paeger Press.
- Cherry, E. (1953). Experiments on recognition of speech. In D. Norman, (1976). Memory and Attention. New York: J. Wiley & Son.
- Cheyovich, T., Lewis, C., & Gortner, S. (1976). The nurse in an adult outpatient Clinic. (DHEW Publication No. HRA 76-79). Bethesda, MD: Division of Nursing.
- Chinn, P. (1991). Anthology on caring. New York, NLN.
- Ciafrani, K. (1984). The influence of amounts and relevance of data on identifying health problems. In Kim, McFarland, and McLane (ed.), Classification of Nursing Diagnosis: Proceedings of the Fifth National Conference. St. Louis: C.V. Mosby Co.
- Cleland, V. (1967). Effects of stress on thinking. American Journal of Nursing. 67: 108-111.
- Cochoran, S. (1986). Task complexity and nursing expertise as factors in decision making. Nursing Research. 35(2): 107-112.

- Cofer, C. (1976). The structure of human memory. San Francisco, Freeman Press.
- Colaizzi, A. (1978). Psychological research as the phenomenologist views it. In: R. Valle, & M. King, (Eds.). Existential Phenomenological Alternatives for Psychology. New York: Oxford Press.
- Colman, J. (1963). The general hospital emergency room and its psychiatric problems. American Journal of Public Health. 53: 1294-1301.
- Colman, J. (1967). Psychiatric studies of patient needs in emergency services of general hospitals. Medical Care. 5: 255-259.
- Colman, J. (1968). Research in walk-in psychiatric services in general hospitals. American Journal of Psychology. 45: 1668-1673.
- Connors, D. (1988). A continuum of researcher-participant relationships: An analysis and critique. Advances in Nursing Science. 10(4): 32-42.
- Cooper, C. (1988). Covenant relationships: Grounding for the nursing ethic. Advances in Nursing Science. 10(4): 48-59.
- Corcoran, S. (1986a). Decision analysis: a step by step guide for making clinical decisions. Nursing and Health Care. 7: 149-154.
- Corcoran, S. (1986b). Planning by expert and novice nurses in cases of varying complexity. Research in Nursing and Health. 9: 155-162.
- Corcoran, S. (1986c). Task complexity and nursing expertise as factors in decision making. Nursing Research. 35: 107-112.
- Concoran, S., Narayan, S., & Moreland, H. (1988). "Thinking aloud" as a strategy to improve clinical decision making. Heart and Lung. 17: 463-468.
- Craik, F., & Lockhart, R. (1972). Levels of procession: A framework for memory research. Journal of Verbal Learning and Verbal Behaviour. 11(6): 671-684.

- Craik, F., & Tulving, E. (1975). Depth of retention and processing in episodic memory. Journal of Experimental Psychology. 94(6): 268-294.
- Crutchfield, J., Farmer, J., Packard, N., & Shaw, R. (1990). Chaos. Scientific America. February, 46-57.
- Cziko, G. (1989). Unpredictability and indeterminism in human behaviour: Arguments and implications for educational research. Educational Researcher. 18(3): 17-25.
- Cziko, G. (1992). Purposeful behaviour as the control of perception: Implications for educational research. Educational Researcher. 21(9): 10-18.
- Cyert, R., & March, J. (1963). Behavioural theory of the firm. Englewood Cliffs, NJ: Prentice-Hall.
- Daft, R. (1986). Organization theory and design. (2nd ed.). New York. West Publishing.
- Daft, R. & Wiginton, J. (1979). Language and organization, Academy of Management Review. 4: 179-191.
- Davidson, A., & Ray, M. (1991). Studying the human-environment phenomenon using the science of complexity. Advances in Nursing Science. 14(2): 73-87.
- Davidson, R., & Lauver, D. (1984). Nurse practitioners and physician roles. Research in Nursing and Health. 7: 3-9.
- Davidson, S. (1978). Understanding the growth of emergency department utilization. Medical Care. 16: 122-132.
- Davis, A. (1978). The phenomenologic approach in nursing research. In Chaska: The Nursing Profession: Views Through the Mist. New York, McGraw-Hill Co.
- Davis, M. (1986). Observation in natural settings. In From Practice to Grounded Theory: Qualitative Research in Nursing. (Chenitz & Swanson, eds.), Addison-Wesley, Wokingham, Berkshire.

- Dess, G., & Beard, D. (1984). Dimensions of environmental task environments. Administrative Science Quarterly. 29: 52-73.
- Denzin, N. (1978). Sociological methods: A sourcebook, (2nd ed.). New York: McGraw-Hill.
- Deikelman, N. (1988). From layperson to novice nurse: The lived experience of nursing students. Unpublished manuscript, School of Nursing, University of Wisconsin, Madison.
- Dickinson, G. (1989). Emergency department overcrowding. Canadian Medical Association. 140: 270-271.
- Diers, D. (1978). Research in nursing practice. Toronto: J.B. Lippincott Co.
- Drew, N. (1986, Summer). Exclusion and confirmation: A phenomenology of patients' experiences with caregivers. Image: Journal of Nursing Scholarship. 18(2): 39-43.
- Dreyfus, S., & Dreyfus, H. (1986). Mind over machine. New York: The Free Press.
- Dreyfus, H., & Dreyfus, S. (1986). Mind over machine: The power of human intuition and expertise in the era of the computer. New York: The Free Press.
- Dreyfus, H., & Dreyfus, S. (1983). Formal models vs. human situational understanding: Inherent limitations of the modeling of expertise. Technology and People. 1: 133-165.
- Dreyfus, H. (1979). What computers can't do: The limits of artificial intelligence. New York: Harper and Row.
- Duda, R., & Shortliffe, E. (1983). Pattern classification and artificial intelligence. New York: Wiley.
- Duffy, M., & Hedin, B. (1988). New directions in nursing research. In: N. Woods & M. Catanzaro (Eds.), Nursing Research: Theory and Practice (pp. 530-539). St. Louis: Mosby.

- Duncan, R. (1972). Characteristics of organizational environment and perceived environmental uncertainty. Administrative Science Quarterly. 17: 313-327.
- Egstrom, G., & Bachrach, A. (1971). Diver panic. Psychological Review. 66(4): 36-39.
- Elstein, A., Shulman, L., & Sprafka, S. (1978). Medical problem-solving: An analysis of clinical reasoning. Cambridge, MA: Harvard University.
- Elstein, A., Kagan, N., Shulman, L., Jason, H., & Loupe, M. (1972). Method and theory in the study of medical inquiry. Journal of Medical Education. 47. February, 85-92.
- Emergency Nurses Association. (1989). Scope of practice statement. Journal of Emergency Nursing. 15(4): 361.
- Ermath, M. (1978). The critique of historical reason. Chicago: The University of Chicago Press.
- Fenton, M. (1987). Ethical issues in critical care: A perceptual study of nurses' attitudes, beliefs, and ability to cope. Masters Thesis, University of Manitoba.
- Field, P.A., & Morse, J. (1985). Nursing research: The application of qualitative approaches. London: Croom Helm.
- Fineberg, P. (1984). Doctors and decision analysis. Medical Decision Making. 4: 267-270.
- Flaskerud, J., Holloran, E., Janken, J., Lund, M., & Zetterlund, J. (1979). Avoidance and distancing: A descriptive view of nursing. Nursing Forum. 18. 158-174.
- Flexner, S., & Stein, J. (1980). The random house dictionary. New York: Random House.
- Fox, J., Barber, D., & Bardhan, K. (1980). Alternatives to Bayes? A quantitative comparison with rule based diagnostic inference. Methods of Information in Medicine. 19: 210-215.

- Gadamer, H., Barden, G., & Cumming, J. (1975). Truth and method. New York: Seabury Press.
- Gale, J., & Marsden, P. (1982). Clinical problem solving: The beginning of the process. Medical Education. 16(1): 22-26.
- Gardner, H. (1985). The mind's new science: A history of the cognitive revolution. New York: Basis Books.
- Georgopoulos, B. (1985). Organization structure and the performance of hospital emergency services. Annals of Emergency Medicine. 14(7): 677-684.
- Gerson, S., & Bassuk, E. (1980). Psychiatric emergencies: An overview. American Journal of Psychology. 137: 1-11.
- Giddens, A. (1976). Rules for sociological method: A positive critique of interpretive sociologies. London: Hutchinson.
- Gilligan, C. (1982). In a different voice. Cambridge, Mass.: Harvard University Press
- Gilligan, C. (1986). Remapping the moral domain: New images of the self in relationship. In T. Heller, M. Sosma, & D. Wellberg, Reconstructing Individualism: Anatomy, Individuality, and the Self in Western Thought. San Francisco: Stanford University Press.
- Giorgi, A. (1970). Psychology as a human science: A phenomenologically based approach. New York: Harper & Row.
- Giot, E.A. (1993). Assessment of competence in clinical practice: A phenomenological approach. Journal of Advanced Nursing. 18: 114-119.
- Glaser, B., & Strauss, A. (1967). The discovery of grounded theory. Chicago: Aldine.
- Glaser, B., & Strauss, A. (1966). The purpose and credibility of qualitative research. Nursing Research. 15(1): 56-61.

- Glaser, B., & Strauss, A. (1974). The discovery of grounded theory: Strategies for qualitative research. New York: Harper & Row.
- Gleick, J. ((1987). Chaos: Making a new science. New York: Viking.
- Goldberger, A., Rigney, D., & West, B. (1990). Chaos and fractiles in human physiology. Scientific America. February, 43-49.
- Gordon, M. (1984). Predictive strategies in diagnostic tasks. Nursing Research, 29(1): 39-45.
- Gordon, M. (1982). Nursing diagnosis: Process and Application. (1st ed.). New York: McGraw-Hill Book Co.
- Gordon, M. (1987). Nursing diagnosis: Process and Application. (2nd ed.). New York: McGraw-Hill Book Co.
- Gray, J., Wedderburn, A. (1960). Grouping strategies with simultaneous stimuli. Quarterly Journal of Experimental Psychology. 12(2): 180-184.
- Grayson, J. (1973). Management science and business practice, Harvard Business Review. 51: 41-48.
- Green, B., Grace, M., & Lindy, J. (1988). Treatment efficacy and clinical implications. In J. Lindy (Ed.), Vietnam: A casebook. (pp. 292-312). New York: Brunner/Mazel.
- Green-Hernandez, C. (1991). A phenomenological investigation of caring as a lived experience in nurses. In P. Chinn, Anthology on Caring. New York: National League for Nursing.
- Grier, M. (1977). The need for data in making nursing decisions. In Werley, H., & Grier, M. (eds.). Nursing Information Systems. New York: Springer Publishing Co.
- Grier, M. (1979). Nurses' propensity to risk. Nursing Research. 28: 186-191.
- Grier, M. (1976). Decision making about patient care. Nursing Research. 25: 105-110.

- Griffin, J. (1992). The impact of noise on critically ill people. Holistic Nurse Practitioner. 6(4): 53-56.
- Grout, J., Steffen, S., & Bailey, J. (1981). The stresses and satisfiers of the intensive care unit: A survey. Critical Care Quarterly. 3(4): 35-45.
- Hall, E. (1964). The royal commission on health services. Ottawa: Queens Printer.
- Hammond, K., Kelly, K., Castellan, N., Schneider, R., and Vancini, M. (1966). Clinical inferencing in nursing: Use of information seeking strategies by nurses. Nursing Research. 15(4): 330-336.
- Hammond, K., Kelly, K., Schneider, R., & Vancici, M. (1966a). Clinical inferencing in nursing: Analyzing cognitive tasks representative of nursing problems. Nursing Research. 15: 134-138.
- Hammond, K., Kelly, K., Schneider, R., & Vancici, M. (1966b). Clinical inferencing in nursing: Information units used. Nursing Research. 15: 236-243.
- Hammond, K., Kelly, K., Schneider, R., & Vancici, M. (1967). Clinical inferencing in nursing: Revising judgments. Nursing Research. 16: 38-45.
- Hammond, K. (1966). Clinical inferencing in nursing: A psychologist's viewpoint. Nursing Research. 15: 27-38.
- Hangsi, H., Carlsson, B., & Brismar, B. (1992). The urgency of care need and patient satisfaction at a hospital emergency department. Health care Management Review. 17(2): 71-75.
- Hayes-Roth, B., & Hayes-Roth, f. (1979). A cognitive model of planning. New York. Appleton-Century-Crofts.
- Health and Welfare Canada. (1988). Emergency units in hospitals: Guidelines. Minister of National Health and Welfare, Health Services and Promotion Branch.

- Heidegger, M. (1962). Being and time. Macquarrie, J., Robinson, E., (trans). New York: Harper and Brothers.
- Hedin, B., & donovan, J. (1989). A feminist perspective on nursing education. Nurse Educator. 14(4): 8-13.
- Henry, S. (1991a). Effect of level of patient acuity on clinical decision making of critical care nurses with varying levels of knowledge and experience. Heart and Lung. 20(5): 478-485.
- Henry, S. (1991b). Clinical decision making of critical care nurses managing computer simulated tachydysrhythmias. Heart and Lung. 20: 469-477.
- Hinds, P., and Young, K. (1987). A triangulation of methods and paradigms to study nurse - given wellness care. Nursing Research. 36(3): 195-198.
- Hoeller, K. (1988). Heidegger and psychology. Seattle WN. Review of Existential Psychology and Psychiatry.
- Hoffart, N. (1991). A member check procedure to enhance rigor in naturalistic research. Western Journal of Nursing. 13(4): 522-534.
- Holden, R. (1991). Empathy: The art of "emotional knowing" in holistic nursing care. Holistic Nursing Practice. 5: 70-79.
- Holden, R. (1991). On applying psychoanalytic explanation in phenomenological research. International Journal of Nursing Studies. 28(4): 387-396.
- Holsti, O. (1978). Limitations in cognitive abilities in the face of crisis. In C. Smart and W. Stanburg (Eds.) Studies in Crisis Management. (pp. 39-55). Toronto: Butterworth and Company.
- Huckabay, L., & Jagla, B. (1979). Nurses' stress factors in the intensive care unit. Journal of Nursing Administration. 9(2): 21-26.

- Hughes, K., & Young, W. (1990). The relationship between task complexity and decision making consistency. Research in Nursing and Health. 13: 189-197.
- Hulley, S., & Cummings, S. (1988). Designing clinical research. Baltimore: Williams & Wilkins.
- Hurst, K., Dean, A., & Trickey, S. (1991). The recognition and non-recognition of problem-solving stages in nursing practice. Journal of Advanced Nursing. 16: 1444-1455.
- Hyslop, A. (1987). are programs intelligent? Nursing Times. 83: 56-58.
- Ingram, D. (1978). Distance and decision to visit an emergency department. Social Science Medicine. 12: 55.
- Ivancevich, J., & Matteson, M. (1980). Nurses and stress: Time to examine the potential problem. Nursing Leadership and Management. 12(6): 17-22.
- Jackson, S. (1992, Summer). Crisis in the emergency room: A solution. Revolution: The Journal of Nurse Empowerment. 2(2): 18-23.
- Jacques, R. (1993). Untheorized dimensions of caring work: Caring as a structural practice and caring as a way of seeing. Nursing Administration. 17(2): 1-10.
- James, W. (1956). The principles of psychology. New York, Dover. (Original printing, 1890).
- Janis, I., & Mann, L. (1977). Emergency decision making: A theoretical analysis of responses to disaster warnings. Journal of Human Stress. 3(2): 35-48.
- Janis, I. (1977). Decision making: A psychological analysis of conflict, choice, and commitment. New York: Free Press.
- Jemison, D. (1984). The importance of boundary spanning roles in strategic decision making. Journal of Management Studies. 21: 131-152.

- Jones, S., Yoder, L., and Jones, P. (1984). Implications for emergency nursing continuing education. Journal of continuing Education in Nursing. 15(3): 93-98.
- Jones, J. (1988). Clinical reasoning in nursing. Journal of Advanced Nursing. 13: 185-192.
- Jurkovich, R. (1974). A core typology of organizational environments. Administrative Science Quarterly. 19: 380-394.
- Kagan-Krieger, S. (1991, September). Nursing education and feminism. Canadian Nurse.
- Kahn, L., Anderson, M., & Perkoff, G. (1973). Patient's perceptions and uses of a pediatric emergency room. Social Science Medicine. 7: 155-160.
- Kassirer, J., and Gorry, G. (1978). Clinical problem solving: A behavioural analysis. Annals of Internal Medicine. 89: 245-255.
- Kaisirer, J., Moskowitz, A., Lau, J., & Pauker, S. (1987). Decision analysis: A progress report. Annals of Internal Medicine. 106: 275-291.
- Kim, M.J. (1987). Decision making in critical care. In Hannah et al. Clinical Judgment and Decision Making: the Future of Nursing Diagnosis. New York: John Wiley & Sons.
- Kim, M.J., (1983). Nursing diagnosis in critical nursing: An editorial. Dimensions of Critical Care Nursing. 2: 5-6.
- Kim, M.J. (1984). Physiological nursing diagnosis: It's role and place in nursing taxonomy. In M.J. Kim, G. McFarland, A. McLane (Eds.), Classification of Nursing Diagnoses: Proceedings of the Fifth National Conference (pp. 60-62). St. Louis: C.V. Mosby.
- Kitt, S., & Kaiser, J. (1990). Emergency nursing: A physiological and clinical perspective. Philadelphia: W.B. Saunders.
- Kleffel, D. (1991). An ecofeminist analysis of nursing knowledge. Nursing Forum. 26(4): 5-18.

- Kleffel, D. (1991). Rethinking the environmental domain of nursing knowledge. Advances in Nursing Science. 14(1): 40-51.
- Kritek, P. (1987). Risks and realities. In Hannah, K., Reimer, M., Mills, W., & Letourneau, S. Clinical judgment and decision making: The future of nursing diagnosis. New York: John Wiley & Sons.
- Kuhn, T. (1970). The structure of scientific revolutions. (2nd ed.). Chicago: University of Chicago.
- Kurtz, R., & Wang, J. (1991). The caring ethic: More than kindness, the core of nursing science. Nursing forum. 26(1): 4-8.
- Laberge, D. (1975). Acquisition of automatic processing in perceptual and associative learning. In P. Rabbitt (Ed.), Attention and Performance. London, Academic Press.
- Lambert and Lambert. (1988). Clinical nursing research: Its meaning to the practicing nurse. Applied Nursing Research. 1(2): 54-57.
- Lanza, M., & Bantly, A. (1991, October). Decision analysis: A method to improve quality of care for nursing practice. Journal of Nursing Care Quality. 6(1): 60-72.
- Lavenhar, M. et al. (1968). Social class and medical care: Indices of non-urgency in use of hospital emergency services. Medical Care. 6: 368.
- Leavitt, H. (1975). Beyond the analytic manager. California Management Review. 17: 5-12.
- Leninger, M. (1984). Care: The essence of nursing and health. Detroit: Wayne State University Press.
- Lewis, D., & Robinson, J. (1987). Assessment of coping strategies of ICU nurses in response to stress. Critical Care Nurse. 6: 38-43.
- Lincoln, Y., & Guba, E. (1985). Naturalistic Inquiry. Beverly Hills: Sage.

- Lindblom, C. (1959). The science of "muddling through". Public Administration Review. 19: 79-88.
- Lindblom, C. (1965). The intelligence of democracy. New York: Free Press.
- Lindblom, C. (1968). The policy-making process. Englewood Cliffs, N.J.: Prentice-Hall.
- Lippincott, R. (1979). Psychological stress factors in decision making. Heart and Lung. 8: 1093-1095.
- Lochoff, R., Cane, R., Buchanan, N., & Cox, H. (1977). Nursing staff stress in an intensive care unit. South African Medical Journal. 12: 961-963.
- Lynch-Sauer, J. (1985). Using phenomenological research method to study nursing phenomena. In Leinginger, M., Qualitative Research Methods in Nursing. Orlando, FD.: Grine & Stratton, Inc.
- MacCrimmon, K., & Taylor, R. (1973). Decision making and problem solving in unstructured environments. New York: McGraw Hill.
- Mac Pherson, K. (1983). Feminist methods: A new paradigm for nursing research. Advances in Nursing Science. 3(1): 95-113.
- Magnusson, G. (1980). Association between health status, social factors and level of emergency use. Med. Care. 4.
- Margolis, C. (1983). Uses of clinical algorithms. Journal of the American Medical Association. 249: 627-632.
- Marriner, A. (1986). Nursing theorists and their work. St. Louis: C.V. Mosby co.
- Mason, D., Backer, A., & Georges, A. (1991, Summer). Toward a feminist model for the political empowerment of nurses. Image: Journal of Nursing Scholarship.
- Matteson, P. (1990). Concept analysis of decision making. Nursing Forum. 25(2): 4-10.

- Matthews, C., & Gaul, A. (1979). Nursing diagnosis from the perspective of concept attainment and critical thinking. Advances in Nursing Science. 2(1): 17-26.
- May, K. (1979, Jan.). The nurse as researcher: Impediment to informed consent. Nursing Outlook. 36-39.
- May, K. (1989). Interviewing techniques in qualitative research: Concerns and challenges. In J. Morse, (Ed.). Qualitative Nursing Research: A Contemporary Dialogue. Maryland, Aspen Publishers.
- McCall, G., & Simmons, J. (Eds.). (1969). Issues in participant observation: A text and reader. Reading, MA: Addison-Wesley.
- McCann, J., & Selsky, J. (1984). Hyperturbulence and the emergency of type 5 environments. Academy of Management Review. 9: 460-470.
- McGuire, C. (1985). Medical problem solving: A critique of the literature. Journal of Medical Education. 60: 587-595.
- McMillan, C. (1980). Qualitative models of organizational decision making. Journal of Management Studies. 5: 22-39.
- Merleau-Ponty, M. (1962). Phenomenology of perception. London: Routledge and Kegan Paul.
- Miles, M., & Huberman, A. (1984). Qualitative data analysis: A sourcebook of new methods. Beverly Hills: Sage.
- Miller, G. (1956). The magical number seven, plus or minus two: Some limits on capacity for information processing. Psychological Review. 63(5): 81-97.
- Mintzberg, H., Raisinghani, D., & Theoret, A. (1976). The structure of unstructured decision processes. Administrative Science Quarterly. 21: 246-275.
- Mintzberg, H. (1980). The nature of managerial work. (2nd ed.). London: Prentice-Hall.

- Mishel, M. (1990). Reconceptualization of the uncertainty in illness theory. Image: Journal of Nursing Scholarship. 22(4): 256-262.
- Mishel, M. (1981). The measurement of uncertainty in illness. Nursing Research. 30(5): 258-263.
- Mishel, M., Braden, C. (1988). Finding meaning: Antecedents of uncertainty in illness. Nursing Research. 37(2): 98-127.
- Mishel, M. (1984). Perceived uncertainty and stress in illness. Research in Nursing and Health. 7: 163-171.
- Mitchell, E. (1986). Multiple triangulation: A methodology for nursing science. Advances in Nursing Science. 8(3): 18-26.
- Morse, J. (1989). Qualitative nursing research: A contemporary dialogue. Maryland, Aspen Publication.
- Morris, O. (1977). Primate ethology. New York: Double Day.
- Moscovice, I. (1978). The influence of training level and practice setting on patterns of primary care provided by nursing personnel. Journal of Community Health. 4(1): 4-14.
- Munhall, P., & Oiler, C. (1986). Nursing research: A qualitative perspective. Norwalk: Appleton-Century-Croft.
- Munhall, P. (1988). Ethical considerations in qualitative research. Western Journal of Nursing Research. 10(2): 150-162.
- Munhall, P. (1989). Philosophical ponderings on qualitative research methods in nursing. Nursing Science Quarterly. 2(1).
- National Academy of Sciences/National Research Council. (1966). Accidental death and disability: The neglected disease of modern society. Washington, DC: NAS/NRC.
- National emergency Nurses' Affiliation. (1990). National Certification for Specialization: Position Paper. (In Press) Canadian Nurses Association, Ottawa: CNA Publishing.

- Neufeld, V., Norman, G., Feightner, J., & Barrows, H. (1981). Clinical problem solving by medical students: A cross-sectional and longitudinal analysis. Medical Education. 15: 315-322.
- Newell, A., & Simon, H. (1972). Human problem solving. Englewood Cliffs, New Jersey: Prentice-Hall.
- Norman, D. (1976). Memory and attention: An introduction to human information processing. New York: John Wiley and Sons.
- Norman, G. et al. (1985). Knowledge and clinical problem solving. Medical Education. 19: 344-356.
- Norton, R. (1975). Measurement of ambiguity tolerance. Journal of Pers. Assess. 39: 607-619.
- Nutt, P. (1984). Types of organizational decision processes, Administrative Science Quarterly, 29: 414-450.
- Nutt, P. (1976). Models for decision making in organizations and some contextual variables which stimulate optimal use. Academy of Management Review. 1: 84-98.
- Oiler, C. (1982). The phenomenological approach in nursing research. Nursing Research. 31(3): 178-181.
- Omery, A. (1983). Phenomenology: A method for nursing research. Advances in Nursing Science. 5(2): 49-63.
- Ornato, P. (1991). Problems faced by urban emergency department in providing rapid triage and intervention for the patient with suspected acute myocardial infarction. Heart and Lung. 20(5): 584-588.
- Padrick, K., Tanner, C., Putzier, D., & Westfall, V. (1987). Hypothesis evaluation: A component of diagnostic reasoning in nursing. In McLane, A. (Ed.), Classification of Nursing Diagnoses: Proceedings of the Seventh National Conference.

- Palmer, R., (1969). Hermeneutics. Evanston, IL: Northwestern University Press.
- Parker, J. (1984). Emergency nursing: A guide to emergency care. New York: John Wiley & Sons.
- Paterson, J., & Zderad, L. (1976). Humanistic Nursing. New York: J. Wiley & Sons.
- Pauker, S., & Kassirer, J. (1987). Medical progress decision analysis. The New England Journal of Medicine. 316: 250-258.
- Phillips, L. (1987). A theoretical perspective on heuristics and basis in probabilistic thinking. In H. Jungermann. Advances in psychology: Analysis and aiding decision processes. 34: 134-139.
- Phillips, L., & Rempusheski, V. (1985). A decision making model for diagnosing and intervening in elder abuse and neglect. Nursing Research. 34. 134-139.
- Piscarik, G. (1980). History of emergency nursing: Then and now. Journal of Emergency Nursing. 7(6).
- Polanyi, M. (1958). Personal Knowledge. Chicago: University of Chicago Press.
- Polit, D., & Hungler, B. (1987). Nursing research: Principles and methods. Philadelphia: J.B. Lippincott Co.
- Politser, P. (1981). Decision analysis and clinical judgment: A re-evaluation. Medical Decision Making. 1: 361-389.
- Powers, W. (1973). Behaviour: The control of perception. Chicago: Aldine.
- Prescott, & Driscoll, L. (1979). Nurse practitioner effectiveness: A review of physician - nurse comparison studies. Evaluating and the Health Professions. 2(4): 387-418.
- Prigogine, I., and Stengers, I. (1984). Order out of chaos. New York: Bantam Books.

- Purnell, L. (1991). A survey of emergency department triage in 185 hospitals. Journal of Emergency Nursing. 17(6) 402-407.
- Putzier, D., Padrick, K., Westfall, U., & Tanner, C. (1985). Diagnostic reasoning in critical care nursing. Heart and Lung. 14: 430-437.
- Pyles, S., & Stern, P. (1983). Discovery of nursing gestalt in critical care nursing: The importance of the grey gorilla syndrome. Image: The Journal of Nursing Scholarship. 15: 51-57.
- Quinn, J. (1992). Holding sacred space: The nurse as healing environment. Holistic Nurse Practitioner. 6(4): 26-36.
- Raiffia, H. (1968). Decision analysis: Introductory lectures on choice under uncertainty. Reading, MA: Addison Wesley.
- Ray, M. (1985). A philosophical method to study nursing phenomena. In Leinginger, M., Qualitative Research Methods in Nursing. Orlando, FD. Grune & Stratton.
- Restle, F. (1975). Cognitive theory. Vol. #1. Hillside, NJ., Lawrence Erlbaum Associates.
- Rew, L. (1988). Intuition in decision making. Image: Journal of Nursing Scholarship. 20: 150-154.
- Rew, L., & Barrows, E. (1987). Intuition: A neglected hallmark of nursing knowledge. Advances in Nursing Science. 10(1): 49-62.
- Rew, L. (1986). Intuition: Concept analysis of a group phenomenon. Advances in Nursing Science. 8(2): 21-28.
- Ricoeur, P. (1981). Hermeneutics and social sciences. New York: Cambridge University Press.
- Ricoeur, P. (1973). Hermeneutic method and reflective philosophy. In R. Zaner and D. Idhe (Eds.). Phenomenology and existentialism. (pp. 333-349). New York: Capricorn Books.

- Robinson, Z. (1989). Learning the professional jargon of nursing during change of shift report. Holistic Nursing Practice. 4(1): 78-83.
- Rogers, M. (1970). An introduction to the theoretical basis of nursing. Philadelphia: F.A. Davis Co.
- Rowles, G. (1988). Reflections on experienced fieldwork. In: D. Ley, & M. Samuels (Eds.), Humanistic Geography: Prospectives & Problems. London: Groom Helm Press.
- Roy, C. (1987). The influence of nursing models on clinical decision making II. In K. Hannah, Clinical Judgment and Decision Making: The Future with Nursing Diagnosis. New York, John Wiley and Sons.
- Sandelowski, M. (1986). The problem of rigor in qualitative research. Advances in Nursing Science. 8(3): 27-37.
- Sandelowski, M., Holditch, D., & Harris, B. (1989). Artful design: Writing the proposal for research in the naturalistic paradigm. Research in Nursing and Health. 12: 77-84.
- Sandelowski, M. (1991). Telling stories: Narrative approaches in qualitative research. Image: Journal of Nursing Scholarship. 23(3): 161-166.
- Sarter, B. (Ed.). (1988). Paths to knowledge: Innovative Research Methods for Nursing. New York: National League for Nursing.
- Sartre, J. (1968). Being and nothingness. Barnes, H. (trans). New York: Washington Square Press.
- Satin, D. (1972). Help?: The hospital emergency unit as community physician. Medical Care 10.
- Schilder, E. (1986). The use of physical restraints in an acute care medical ward. Doctoral Dissertation, San Francisco School of Nursing, California. Dissertation Abstract International.
- Schilder, E. (1989, February). Personal Communication.

- Schneider, K., & Dove, H. (1983). High users of VA emergency room facilities: Are patients abusing the system or is the system abusing them? Inquiry. 57-64.
- Schultz, A. (1967). The phenomenology of the social world. Chicago: Northwestern University Press.
- Seidel, J., Kjolseth, K., & Seymour, E. (1988). The ethnograph. Littleton, CO: Qualis Research Associates.
- Shuster, E. (1992). Earth dwelling. Holistic Nursing Practice. 6(4): 1-9.
- Shamian, J. (1991). Effects of teaching decision analysis on student nurses' clinical intervention decision making. Research in Nursing & Health. 14: 59-66.
- Simmons, G. (1984). Diagnostic reasoning in nursing patients with end stage renal disease. In D. Carnevali et al. Diagnostic Reasoning in Nursing. Philadelphia: J.B. Lippincott.
- Simon, H. (1957). Models of Man: Social and Rational. New York: J.B. Lippincott Co.
- Simon, H., & Newell (1972). Human problem solving. Englewood, N.J.: Prentice Hall.
- Simon, H., & March, J. (1958). Organizations. New York: John Wiley.
- Sinclair, V. (1990). Potential effects of decision support systems on the role of the nurse. Computers in Nursing. 8(2): 60-65.
- Slater, V. (1992). Modern physics, synchronicity, and intuition. Holistic Nursing Practice. 6(4): 20-25.
- Smith, M.J. (1992). Enhancing esthetic knowledge: A teaching strategy. Advances in Nursing Science. 14(3): 52-59.
- Speigelberg, H. (1965). The phenomenological movement. the Hague, Martinus. Volume 2.
- Speigelberg, H. (1975). Doing phenomenology. The Hague: Martinus Nijhoff.

- Spradley, J. (1980). Participant observation. New York: Holt, Rinehart and Winston.
- Spradley, J. (1979). The ethnographic interview. New York: Hold Rinehart and Winston.
- Statistics Canada. (1989). Hospital usage in Canada. Ottawa.
- Statistics Canada. (1990). Hospital usage in Canada. Ottawa
- Strasser, J. (1989). Qualitative clinical nursing research when a community is the client. In J. Morse (Ed.), Qualitative Nursing Research: A contemporary Dialogue. Maryland, Aspen Publication.
- Strauss, A., & Corbin, J. (1990). Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, Sage Publications.
- Swanson-Kauffman, K., and Schonwald, E. (1988). Phenomenology. In B. Sater, Paths to Knowledge: Innovative research methods for nursing. National League for Nurses.
- Tanner, C. (1987). Teaching clinical judgment. In J. Fitzpatrick & R. Tauton (Eds.), Annual Review of Nursing Research (153-173). New York: Springer.
- Tanner, C., & Larkin, D. (1984). Diagnostic reasoning. New York: J.B. Lippincott Co.
- Tanner, C., Putzier, D., Westfall, U., & Padrick, K. (1987). Diagnostic reasoning: An analysis of cognitive strategies used by nurses and nursing students. Nursing Research. 36(6): 358-363.
- Taylor, c. (1979). Interpretation and the sciences of man. In P. Rabinow & W. Sullivan (Eds.), Interpretive social science: A reader. Berkley: University of California Press.
- Taylor, S. (1979). Hospital patient behaviour: Reactance, helplessness, or control? Journal of Social Issues. 35(1): 156-184.

- Thompson, J.D. (1987). Organizations in action. New York: McGraw Hill.
- Thompson, J., & Dains, J. (1982). Comprehensive triage: A manual for developing and implementing & nursing care system. Reston, VA: Reston Publishing co.
- Treisman, A. (1964). Monitoring and storage of irrelevant messages in selective attention. Journal of Verbal Learning and Verbal Behaviour. 3(6): 449-459.
- Tschikota, S. (1990). The decision making processes of student nurses in planning nursing care. Unpublished Masters Thesis. University of Manitoba.
- Tung, R. (1979). Dimensions of organizational environments: An exploratory study of their impact on organization structure. Academy of Management Journal. 22: 672-693.
- Vaughan, H., & Gemester, C. (1966). Why patients use emergency departments. Hospitals. 40: 59-62.
- Von Bommel, J. (1986). Formulization of medical knowledge. Methods of information in medicine. 25: 191-193.
- Voytovich, A., & Rippey, R., (1985). Premature conclusions in diagnostic reasoning. Journal of Medical Education. 60: 302-307.
- Vu, N. (1980). Describing teaching and predicting medical problem solving. Evaluation and the Health Professions. 3(4): 435-459.
- Walker, L. (1975). The emergency department as entry point into the health care system. Hospital Topics. 53: 46-47, 61.
- Watson, G. (1978). Utilization of emergency departments for psychiatric treatment. Canadian Psychiatric Association. 23: 143-147.
- Watson, L., Irwin, J., & Michalski, S. (1991). Researcher as Friend: Methods of the interviewer in a longitudinal study. Qualitative Health Research. 1(4): 497-514.

- Webb, C. (1984). Feminist methodology in nursing research. Journal of Advanced Nursing. 9: 249-256.
- Weinerman, E., Ratner, R., Robbins, A., & Lavenhar, M. (1966). Yale studies in ambulatory care. American Journal of Public Health. 56(1): 1040.
- Weinstein, M., & Fineberg, H. (1980). Clinical decision analysis. Philadelphia: W.B. Saunders.
- Westfall, U., Tanner, C., Putzier, D., & Padrick, K. (1986). Activating clinical inferences: A component of diagnostic reasoning. Research in Nursing and Health. 9: 269-277.
- Wilde, V. (1992). Controversial hypothesis on the relationship between researcher and informant in qualitative research. Journal of Advanced Nursing. 17: 234-242.
- Williams, C. (1975). Nurse practitioner research: Some neglected issues. Nursing Outlook. 23(3): 172-177.
- Wilson, H. (1985). Research in nursing. Menlo Park, California: Addison - Wesley Publishing Co.
- Woods, N. & Catanzaro, M. (1988). Nursing research: Theory and Practice. St. Louis: Mosby.
- Wurzbach, M.E., (1991). Judgment under conditions of uncertainty. Nursing forum. 26(3): 27-34.
- Yedida, M. (1981). Delivering primary health care nurse practitioners at work. Boston: Auburn House.
- Yonge, O., & Stewin, D. (1988). Reliability and validity: Misnomers for qualitative research. Canadian Journal of Nursing. 20(2): 61-67.
- Younger, J. (1990). Literary works as a mode of knowing, Image: Journal of Nursing Scholarship. 22(1): 39-43.

Yura, H. (1979). The nursing process: Assessing, planning, implementing, and evaluating. (3rd Ed.). New York: Appleton-Century-Crofts.

APPENDIX A

Individual Interview Guide

Questions to further explore the clinical practice of emergency nurses include:

1. There are similarities as well as differences between the emergency nurses role and other nurses roles in the hospital.
 - a. What sort of work did you do as a nurse before you came to the ED?
Probe: Describe what a day was like.
 - b. How would you describe your work as a nurse in emergency?
Probe: Describe a typical day.
2. We all know that ideals are hard to achieve in every day workings of a busy ED.
 - a. What is the most important ideal that you try not to let go of even though it is hard to achieve for your patients?
 - b. Describe what emergency nursing means to you.
 - c. What barriers do you encounter in trying to provide care?
 - d. What helps you provide that care?
 - e. Describe ways that you try to personalize care.
 - f. How do you incorporate a holistic perspective?
 - g. What are the major things you do in terms of the patients care?
 - i) What percentage of time would you spend on teaching and health promotion activities?

- ii) What percentage of time do you spend treating the injury or disease of your patient?
 - iii) Could you describe ways that you include the family in your care?
 - iv) What percentage of time would you spend executing MD's orders?
 - v) How much time do you spend with your patient involving them in their care?
3. It is well known that emergency nurses care for a large group of patients whose characteristics vary.
- a) How do you describe your patient population?
 - b) What percentage of your time do you spend on:
 - life saving activities
 - medical treatments
 - health maintenance activities
 - health promotion activities
 - counselling
 - patient and family teaching
 - alleviating pain
 - coordinating activities
 - paper work
4. Given the demanding nature of clinical practice, how do you keep going? What helps you sustain your energy level and effort? Given that you may witness the worst parts about the human condition, how do you cope then with every day life/family, etc.?
5. How would you contrast your role with those of other health care providers in the emergency system? What is common? What is unique?
- a. How do you describe your relationship with patients?

Probe: Different/similar about emergency nurse-patient relationships?

6. What setting factors impede or enhance your nursing care.
 - a. What barriers, if any, have you encountered?
 - b. What facilitators?
 - c. What are your priorities in providing care?

7. What do you do for patients that you consider to be particularly effective?

Probe: Do you have any particular areas of expertise?

8. How do you assess the effectiveness of the care you provide?

9. Advances in technology and increased consumer awareness has had an impact on health care delivery.
 - a. How do you keep your knowledge and skills current?
 - b. In the last year have you participated in any continuing education activities? If so, what was the focus?

10. Tell me about a significant situation/key experience that changed you and the way you feel about nursing in emergency.

APPENDIX B

Demographic Questionnaire

Name: _____ (optional)

Date: _____

1. Age in years: _____

2. Sex:

M _____

F _____

3. Educational Background

Basic Nursing Preparation

Diploma _____

B.N. _____

other _____

Year of Graduation _____

4. Experiential Background

Length of time in active practice
as a R.N.
_____Length of time in active practice
as an emergency nurse

5. Specialty Certification

Type: _____

Date: _____

6. Professional Organizational Activities

_____7. Current position and title

8. Practice setting in emergency department
 enjoy the most (check off: 1 = best;
 5 = least)

"bigside" _____
 "resus" _____
 "smallside" _____
 "obs" _____
 "triage" _____

9. What type of patient care do you find most
 challenging?

10. What type of patient care do you find least
 challenging?

11. Typical day: # of patients you cared for.

12. Number of phone calls a day you answer.

13. Patient characteristics
 (estimate in percent)

age range	_____	%
sex	_____	%
ethnicity	_____	%
chronic health problems	_____	%
multiple health problems	_____	%
critical health problems	_____	%
acute not life		
threatening	_____	%
primary care problems	_____	%
has a primary care		
giver	_____	%

14. Typical work day
(estimate in percent)

direct patient care	_____	%
charting	_____	%
troubleshooting	_____	%
coordinating activities	_____	%
phone calls	_____	%
consulting	_____	%
interpreting results	_____	%
interpreting system	_____	%
administrative	_____	%

15. How often are you in a teaching role?
(estimate in percent)

a. patients	_____	%
b. nursing students	_____	%
c. nurses (orientation)	_____	%
d. nurses (in-service)	_____	%
e. M.D.'s	_____	%
f. medical students	_____	%

16. Size of caseload

Approximate # at one time _____
 Approximate # in one eight hour shift _____
 _____ (exclude triage)

APPENDIX C

Emergency Nurse Consent Form
Consent To Be A Research Subject

I, _____, willingly agree to be a subject in this study conducted by Beth Ritchie, a Masters student in the Masters of Nursing program at the University of Manitoba.

I understand that my participation will include: a) one hour long interview that will be tape recorded; b) observation of three eight hour shifts; c) completing a questionnaire to provide demographic data that will take approximately ten minutes; and d) a periodic review of transcribed narrative accounts, interviews, and field notes for accuracy, clarification of content, and validation of interpretation. I understand that the taped interviews and field notes will be kept confidential and available only to the thesis committee and two experts in the field who are not from my emergency department.

I may experience some loss of privacy through my participation in this study. However, the investigator will keep my name separate from the transcribed text. My name will be coded by letter and kept in a locked file so that my confidentiality will be protected. The tapes will be used for this study only and will be erased following completion of the study. I understand that nothing will be published or reported without my consent.

If I find the discussion, interview, or observation disturbing, I am at liberty to refuse to answer any specific question and to request termination of the interview or observation at any time. I can refuse to have the interview taped.

My inconvenience in terms of time invested in this study will be minimized as much as possible by scheduling activities at times convenient to me. At anytime I feel the investigator may impede my ability to give care, I am at liberty to ask her to leave, without consequence. I understand that it will not be possible to identify me in the report of this study or any future publications that might arise from this study.

The study has been explained to me. However, if I have any questions about this study or my participation, I may call Beth Ritchie at _____ or Professor Erna Schilder, the sponsor of her thesis, at 474-9664.

I have received a copy of this consent form. My participation in this study is completely voluntary. I have the right to refuse to participate and the right to withdraw from this study without any jeopardy to my person or my employment or reputation. I just have to say so.

My signature indicates that I have decided to volunteer in this study. A summary of this study will be made available to me upon request.

Signature Participant _____
Date _____

Signature Investigator _____
Date _____

APPENDIX D

An Invitation to Participate in Nursing Research

A study is being done by Beth Ritchie, a masters student at the University of Manitoba, Winnipeg, Manitoba, School of Nursing, to find out how emergency nurses acquire their skill and knowledge. You are being invited to be a participant in the study as your views and ideas are valuable to the investigator in understanding what it means to be an emergency nurse.

If you agree to participate, you will be observed giving care for three eight hour shifts, and informally interviewed for approximately 1 hour by Ms Ritchie. Observation time and the interview will be arranged to suit you. You will be asked to periodically review the themes emerging from the observations and the interview. This will take a short amount of time in order to validate these themes.

All observations and information will be kept confidential and your name will be coded to protect your anonymity.

Although there is no direct benefit to you for participating, the investigator hopes to learn more about the role and function of an emergency nurse which may help nurses and other health care workers to understand emergency nursing practice.

If you would like to participate please phone Beth Ritchie at . A preliminary meeting to explain the study to you will be arranged. However, if you have any other questions or comments please phone the above number or contact me through the School of Nursing at the University of Manitoba: 474-8202.

Thank you for your support.

Sincerely,

Beth Ritchie
Master of Nursing Candidate
U of M

 APPENDIX E

 CLUSTERS

EXPERIENCING AND KNOWING
 DECISION MAKING IN UNCERTAIN CONDITIONS
 THE HUMAN CONDITION
 HAVING CONCERN AND COMPASSION
 COMMUNICATING
 CHAOS, COMPLEXITY AND UNCERTAINTY
 ORDER AND STRUCTURE

*

*

 COLLAPSING THE CLUSTERS INTO UNIFIED
 GROUNDED THEMES

KNOWING

CARE AND CARE WORK

HUMAN-ENVIRONMENT RELATIONSHIP

*

*

 SUBTHEMES FROM THEMES

KNOWING

Knowing the Environment

- Patient
- Family
- System
- Subculture
- Technology

Knowing What and Knowing How

Knowing Yourself

Intuitive Ways of Knowing

CARE AND CARE WORK

Caring in Context

Interntionality

The Inbetween

Quantum Caring

Reciprocity

Time and Helping

HUMAN ENVIRONMENT RELATIONSHIP

Chaos

Windows of Order

Clusters Derived From the Text and Text Analogue

Experiencing and Knowing

- beginning was terrified of the uncertainty
- increased knowledge and experience leads to better care better understanding
- when you know more you gather more pertinent data
- have to know every system and others work
- more education helps confidence level
- experience in nursing helps before coming to emergency
- be involved with decisions more since had more education-more prepared to be patient advocate
- experience helps to qualify own life and priorities
- grow to see life as fragile
- knowing about the self: uncertainty as a satisfier
 - variety in practice
 - fluctuating levels of acuity
 - numbers of patients and the mix is challenging
 - uncontrolled environment
 - scope of practice is vast
 - all types of people all walks of life
 - all types of problems
 - all age groups-high stress
 - not knowing what to expect
 - short term critically ill
 - excitement, feeling of accomplishment when handle out of control situation well
 - coping with disruption
 - can made decisions on own
 - flurry of activity ... wax and wanes
 - skilled performance in extreme situations
 - detection of significant changes in conditions
 - anticipating problems and being right
 - assessing the patient's level of threat and responding rapidly
 - effective management of crisis situations

- ability to reach spontaneous conclusions
- a feeling of "just knowing"
- anticipation of problems without knowing why
- feelings that there is a missing piece to the puzzle usually related to the patients condition or patients relationship to another

The Human Condition

- constant exposure to worst of human condition
- poverty, violence, mutilation
- physical and emotional pain
- hopeless life conditions
- substance abuse
- prejudice
- criminal element
- evil behaviour
- telling patient and/or family awful news
- destruction
- futility of some situations
- despair
- grief and sorrow
- powerless to change society

Having Concern and Compassion

- perception ... more compassionate than MD
- personalized care
- appreciating different styles with different people
- caring defined as individualized for their world
- relating to their pain
- creating a secure environment for the patient and family
- interpreting kinds of pain
- providing information at level they can understand
- speak so can be understood
- include family for support
- nurse as the constant person
- being there for them when there is no time
- understanding the human condition and relating to "their world"
- important that the patient and family believes that you are doing everything that can be done

- gentleness even when there is no time
- expressed philosophy of holism
- assisting patient and family through crisis
- deep understanding of the human condition: poverty, violent behaviour
- brief contact that is meaningful
- direct and sincere voice
- providing comfort measures: warmth, food, loved ones

Communicating

- Constant data gathering and sharing
 - patient/family
 - nurses
 - Dr.s
 - others in dept.
 - other departments
 - police
 - ambulance personnel

- Verbal
 - reassurance
 - sharing stories
 - language specific to culture/situation/environment
 - calm manner supportive voice
 - use of the vernacular which may match patients life circumstance selective with patients/families
 - dealing with verbal abuse, ie: swearing from patient/family Dr.s demeaning comments and sarcasm
 - others nasty comments, lab techs, etc.
 - threats of physical harm

- Non Verbal
 - good eye contact
 - smile frequently
 - touch
 - tone of voice is respectful and calm
 - dealing with sarcasm: body language
 - violent behaviour of patients and family
 - threats of physical harm

- Teaching and Coaching
 - support through painful experiences
 - interpret procedures
 - fragmented interrupted disrupted
 - goal directed time limited fast pace
 - no evaluative phase
 - selective topic and patient
 - limited teaching strategies
 - frustrating for nurse d/t feelings of incompleteness
 - diversity of situations call for a wide scope of knowledge and know-how

- Between Departments: being the in-between maximum energy given to coordinating "things"
 - out of the unit types
 - dept-dept
 - ambulance
 - police
 - RCMP
 - agencies ie: Main Street Project
 - Red Cross

in unit types
 triage to discharge
 room to room
 patient to patient
 nurse to patient
 dr. to nurse
 nurse to dr.
 area to area

- System Tracking

- Patients
- patient's charts,
labwork, etc.
- clothing/valuables
- families
- identities of some
patients
- other nurses, doctors,
personnel
- flow of patients within
the dept. and hospital
- available beds in
hospital
- community disaster,
pending or otherwise

Order and Structure

- Internal/External

- Being in-between
- focused assessment
- paced goal directed interview:
time limiting
- tune out other stimuli
 - noise
 - movement
 - pts/family
- task oriented
- increase acuity of patient
 - increase robot
like activity
- focus on skill performance
- emotional distancing and physical
distancing
- constant sharing of info to keep
on top

- constant monitoring and maintenance of data
 - chart
 - pt
 - dr/nurse
 - dept. status
 - constant questioning to validate
 - constant sorting of important info
 - make decisions fast
 - control -- pt. and family, dept., care plan
 - structured coordination
 - use of magnetic board
 - order of stretchers
 - carts in same place
 - order of breaks
 - order of charts on desk
 - slots for forms, Rx etc
 - knowing and constant checking of equipment
 - knowing and checking physical space
 - check lists
 - lists of resources posted on walls
 - use of humour
-
- need to understand what is expected re: performance
 - need to control rapidly changing situations as much as possible
 - need to provide early warning through constant vigil of changing data
 - anticipation of care needs
 - feel good when manage a crazy situation well
 - knowledge and experience helps to cope with disorder
 - knowing how to troubleshoot the system: contingency management
 - coordination of setting
 - not total involvement with all pts or situations
 - being the in-between for the sake of consistency-constant sharing of stories to help make sense of disturbing situations eg: patient/family, dr/nurse, staff/management
 - feelings of pride and worth ... making a difference

- outside work relief, setting priorities
- time for healing/"time outs"
- creating team work mentality
- uncertainty of the environment is a satisfier

Chaos, Complexity and Uncertainty

Internal

- peer pressure to keep up with the pace
- dealing with indecision; own and others
- dealing with incompetence; drs. and nurses
- uncertainty of pt. outcome -- uncertainty of -- expectations: that data is complete
- uncertainty of administration support
- uncertainty of peer support
- never knowing what is next
- increased stress and tension among staff
- no closure with pts.
- change that is unexpected and disruptive ie:
 - nursing system
 - physical setting
- physically exhausting
- lack of control over outcome
- feeling powerless
- no control over pt. flow
- no respect from drs. re: nursing role
 - will disrupt you
 - even when its
 - obvious your busy,
 - their needs come
 - even before a pt.
- no control over change, not being a part of the over-all plan
- not being told first

External

- constant movement
 - constant activity
 - noise
 - hum of voices
 - movement
 - phones ringing
 - technology
 - alarms
 - machines for pt care
 - computers
 - disorder in structure
 - charts missing/not in place
 - reference material not in place
- cramped, small, old dirty space
 weaving in and out of people
 equipment not working or not available
 erratic rapid movements all around
 lack of traffic control
 fragmentation of time
 disruption from others
 equipment jammed into a small working space
 out of control traffic flow
- no debriefing system after a horrific situation
 - no recognition from administration that some events or cumulation of happenings are painful
 - no control over societal problems that lead to patients horrible life styles
 - constantly in-between: pts, drs, nurses, family, administration, wards, other agencies or hospitals the system
 - seemingly randomness of activity
 - clogged and backed up ... feeling life your never on top of it
 - value conflicts: misuse, blaming, bandaging the problem
 - multiple variables to cope with simultaneously
 - perception of abnormal seems normal, unreal is real
 - varied degree of uncertainty as a dissatisfier

Decision Making in Uncertain Conditions

- constant gathering and monitoring of data
- focused and goal directed
- time limited fast paced
- work within collaborative model: nursing, medical
- fast speed data collected and large amounts once: rapid overall clinical approach
- constant checking with pt constant checking with others for validation
- very seldom without an interruption when gathering
- zeroing in on problem -- rapid grasp of problem therefore decisions made fast
- mental shift and stretch rapidly -- rapid detection and documentation of significant changes in conditions
- early warning through constant gathering and sorting of data
- future think - ability to anticipate change in pt. condition or dept. needs
- knowing about the possible problems and planning ahead
- testing hypothesis with each other and drs.
- fragmented data, sorting different stimuli
- narrowing data field to cope
- grasping key cues
- clustering cues rapidly
- constantly maintaining data
- link events and keep multiple variables about pts., family, dept., hospital and other agencies in memory and can recall rapidly and without error
- can think in multiple models ie: nursing, medicine, pharmacist, social work, chaplain, physiotherapist

Parts and Whole -- More than the sum of

- assessment and decision-making constantly about multiple pts with varied and variable problems
- assessment and decisions made about the dept. and movement of pts.

- decisions made constantly and rapidly about specific unit/space problems, ie: who will go where, who to move where, where to put the next person, where to send into the system, if no space then who and where to transfer, assessing space in other agencies
- make others decisions for them, ie: wards, agencies-in-between
- grasping problem without consciously knowing why intuitive mode "just knew" phenomena
- decisions made with limited data
- shifts in mental set continuously, going from one thing to another, where each situation is mutually exclusive from the other
- detailed memory, much information stored esp. at triage
- use a variety of methods to solve a problem, eg: decision analysis, hypothesis generating, intuitive

APPENDIX F

PARTICIPANT OBSERVATION
(5 - 10 NURSES x3 EIGHT HOUR SHIFTS)
TOTAL # OBSERVATION TIME ... $15 \times 8 = 120$ TO $30 \times 8 = 240$

INDIVIDUAL INTERVIEWS OF THE SAME 5 - 10 SUBJECTS
AVERAGE LENGTH OF TIME = 1 HOUR
TOTAL # HOURS = 5 - 10 HOURS

TOTAL TIME FRAME
RANGE OF 125 - 250 HOURS

FLOW CHART OF DATA COLLECTION PROCESS

APPENDIX G

Letter Requesting Access as a Nurse
Researcher to the Setting

Dr. D. Harper
Director of Research and Development
Health Sciences Centre
820 Sherbrook
Winnipeg, Manitoba
R3E 0T2

Dear Dr. Harper:

Re: Request for Nurse Researcher Access

I will be conducting a research project entitled: A Phenomenological Study of Emergency Nursing: An Interpretive Approach to Identifying and Describing Clinical Practice, to fulfill the thesis requirements for the Masters of Nursing program at the University of Manitoba. The study will involve a ten minute questionnaire, direct observation and interview of five - ten emergency nurses. The observation time will consist of three eight hour shifts per volunteer and a one hour interview after observing each individual. I am requesting access to conduct my study at the Health Sciences Centre Emergency Department.

The thesis proposal has been approved by the members of my thesis committee. The committee members include Dr., E. Schilder, Chair, I. Bramadat from the School of Nursing, and two external members, Dr. M. Kopelow from the Faculty of Medicine and B. Rock representing nursing practice.

Ethical and scientific approval are being sought from the University of Manitoba Nursing Ethics Committee, who will review my proposal in April, 1990. Pending approval from the Ethical Review Committee, I am requesting immediate entry into the Health Sciences Centre in order to obtain subjects and commence data collection.

This study involves 5 - 10 emergency nurses and patients indirectly. Other staff members and other departments are not involved in data collection. The maximum length of time that I require is three months. Approval from the

Nursing Department is the main concern in granting access to the department. I would appreciate it if you could facilitate this research process. Attached are five copies of my research proposal for circulation and review.

If you require an interview concerning my application, I can be contacted at 489-3232. Dr. Schilder can be reached at the School of Nursing at 474-9664. If you have any concerns please do not hesitate to call myself or Dr. Schilder.

Awaiting your reply about this matter.

Sincerely,

Beth Ritchie, RN
Master of Nursing Candidate
School of Nursing
University of Manitoba

cc. Dr. Schilder
I. Bramadat
B. Rock
Dr. Kopelow

May 29, 1990

Dr. T. George
Chair
Ethical Review Committee
School of Nursing
University of Manitoba

Dear Dr. George

Please accept my thesis proposal resubmission for ethical approval. I have addressed the recommended change and corrections that the committee suggested. Those areas include:

1. Subject Selection
2. Expert vs. Thesis Committee
3. Caregiving
4. Interview Guide
5. Demography
6. Consent Form
7. Appendix G

Thank you for your help. Awaiting your reply.

Sincerely,

Beth Ritchie, BN
Graduate Student, Nursing
University of Manitoba

APPENDIX G

The University of Manitoba

SCHOOL OF NURSING

ETHICAL REVIEW COMMITTEE

Proposal Number N#90/09

Proposal Title: "A Phenomenological Study of Emergency Nursing:
An Interpretive Approach to Identifying and Describing Clinical
Practice."

Name and Title of

Researcher(s): Elizabeth Ritchie

Master of Nursing Student

University of Manitoba

Date of Review: May 07, 1990

Decision of Committee: Approved: June 11/90 Not Approved: _____

Approved upon receipt of the following changes: _____

APPROVED with the changes submitted on May 29, 1990.

Date: June 12, 1990

Theresa George, / RN, PhD Chairperson
Associate Professor
University of Manitoba

NOTE:

Position

Any significant changes in the proposal should be reported to the Chairperson for the Ethical Review Committee's consideration, in advance of implementation of such changes.

APPENDIX G
HEALTH SCIENCES CENTRE

DATE: JUNE 15, 1990

FROM: Dr. D. Harper, Director of Research, H.S.C.

TO: MS. E. RITCHIE

SUBJECT: Research Protocol Approval

NO: N#90/09 (NURSING)

TITLE: A PHENOMENOLOGICAL STUDY OF EMERGENCY NURSING:
AN INTERPRETIVE APPROACH TO IDENTIFYING AND
DESCRIBING CLINICAL PRACTICE.

The above study has been reviewed by the appropriate H.S.C. Research Committee and has been approved.

COMMENTS: _____

Dr. D. Harper, Director of Research _____

June 15, 1990
Date: _____

APPENDIX H

Types of Questions to be Used in the Study

Descriptive

1. Grand Tour Questions
2. Mini Tour Questions
3. Example Questions
4. Experience Questions
5. Native Language Questions

Structure

1. Verification Questions
2. Cover Term Questions
3. Included Term Questions
4. Substitution Frame Questions

Contract

1. Contrast Verification Questions
2. Directed Contrast Questions
3. Dyadic Questions
4. Triadic Questions

APPENDIX I

Blueprint of the Health Sciences Centre,
Adult Emergency Department

HSC PLANNING DEPT.

Space Inventory

Building: General Hospital		Wing: GE			Level: 1		
Room No.	Function	Sq.Ft.	Sq. m.	Dept.	User Name	Occupancy	Comments
GE-100	Corridor	188.00	17.47	CIRC	general	permanent	
GE-101	Corridor	201.00	18.67	CIRC	general	permanent	
GE-101A	Corridor	216.00	20.07	CIRC	general	permanent	
GE-103	Emergency Treatment	1026.00	95.32	6210	Emergency	permanent	
GE-104	Corridor	700.00	65.03	CIRC	general	permanent	
GE-105	Resuscitation	513.00	47.66	6210	Emergency	permanent	
GE-106	X-Ray Viewing	36.00	3.34	6830	Radiology	permanent	
GE-107	Washroom	25.00	2.32	6210	Emergency	permanent	
GE-108	Corridor/Lockers	97.00	9.01	6210	Emergency	permanent	
GE-108A	Office	59.00	5.48	6210	Emergency	permanent	
GE-109	Snack Prep.	35.00	3.25	6210	Emergency	permanent	
GE-110	Suture Rm	80.00	7.43	6210	Emergency	permanent	
GE-111	Observation Rm	356.00	33.07	6210	Emergency	permanent	
GE-112	Suture Rm	80.00	7.43	6210	Emergency	permanent	
GE-114	Ante Work Suture	104.00	9.66	6210	Emergency	permanent	
GE-115	Washroom	35.00	3.25	6210	Emergency	permanent	
GE-116	Suture/Treatment Rm	144.00	13.38	6210	Emergency	permanent	
GE-117	Exam Room	150.00	13.94	6210	Emergency	permanent	
GE-118	Utility	103.00	9.57	6210	Emergency	permanent	
GE-119	Conference/Kitchen	160.00	14.86	6210	Emergency	permanent	
GE-120	Storage	40.00	3.72	6210	Emergency	permanent	
GE-121	Police Rm	81.00	7.53	6210	Emergency	permanent	
GE-122	Corridor	130.62	12.13	6407	PHC	permanent	
GE-123	Waiting Room	103.00	9.57	6210	Emergency	permanent	
GE-124	Cast Rm	200.52	18.63	6407	PHC	permanent	
GE-125	Waiting Room	100.00	9.29	6210	Emergency	permanent	
GE-127	Beveavement Rm	74.00	6.87	6210	Emergency	permanent	
GE-129	Reception-Emergency	137.00	12.73	6210	Emergency	permanent	
GE-129A	Reception-Emergency	87.00	8.08	6210	Emergency	permanent	
GE-131	Police Rm	95.00	8.83	6210	Emergency	permanent	
GE-133	Storage	187.00	17.37	6400	Ambulatory Care	permanent	
GE-134	Corridor	172.44	16.02	6407	PHC	permanent	
GE-134A	Corridor	164.00	15.24	6400	Ambulatory Care	permanent	
GE-136	Cast Room	110.69	10.28	6407	PHC	permanent	
GE-138	Exam Room	92.43	8.59	6407	PHC	permanent	
GE-140	Exam Room	103.34	9.60	6407	PHC	permanent	
GE-142	Corridor	86.42	8.03	6407	PHC	permanent	
GE-142A	Alcove	17.08	1.59	6407	PHC	permanent	
GE-144	Exam Room	92.14	8.56	6407	PHC	permanent	
GE-146	Exam Room	101.72	9.45	6407	PHC	permanent	
GE-160	Stairs	181.00	16.82	STRS	general	permanent	
Level total:		6664.40	619.14				Date: 09/03/92

APPENDIX J

Profile of Expert Review Panel

EXPERT	POSITION	SETTING	CREDENTIALS	EXPERIENCE
1	NURSE MANAGER	COMMUNITY HOSP E.D.	RN CEN	10 YRS
2	NURSE CLINICIAN/ EDUCATOR	COMMUNITY HOSP E.D.	RN CEN	20 YRS
3	NURSE RESEARCHER/	UNIVERSITY TEACHING HOSP	RN CEN MN CANDIDATE	20 YRS

Review by an Expert Panel

Purpose:

The Standards for Educational and Psychological Testing (AERA, APA, & NCME Joint Committee, 1985) established a set of guidelines and standards for the measurement of human behaviour in a variety of settings, particularly the tests, scales and questionnaires employed in nursing research (Berk, 1990). The purpose of the standards are to establish guidelines pertinent to content -- related validity evidence, particularly with reference to the role of expert judgment.

Method:

1. Initial Independent Assessment

Three nurses independently will rate the Clusters relationship to the Themes and the Themes relationship to the Subthemes using the criteria of "Appropriateness, Accuracy, and Representativeness". They will note additions, deletions, and/or revisions to the specifications. All questions raised by each judge will be answered by the researcher.

2. Researchers Review

Once session one has concluded, the researcher will review all the documented changes and solicit advice from the researchers thesis advisor and then revise the specifications accordingly.

3. Final Independent Assessment

The revised domains will be proposed to the three judges. Again, their independent ratings of appropriateness, accuracy, and representativeness of the specifications will be requested. This request will be made orally to the group of judges. Each judges response will be recorded and incorporated.

The judge will look for:

APPROPRIATENESS: of the content (Clusters, Themes and Subthemes)

1. How appropriate is the study in relation to further understanding of the phenomena.
(Emergency Nursing)

2. Do you have confidence that the clusters, themes, and subthemes are apt ... do they fit with your understanding of emergency nursing practice?
3. Is the researcher an appropriate person to be the instrument addressing the phenomena?

ACCURACY: of the content (Clusters, Themes and Subthemes)

1. How trustful is the content.
2. How credible is the content.
3. Can you recognize the content as your own?
4. Can you follow the "decision trail" related to the Clusters, Themes, and Subthemes.

REPRESENTATIVENESS: of the content (Clusters, Themes and Subthemes)

1. How representative is the content?
2. Does the content portray the Emergency Nurses reality?
3. How meaningful is the content?

