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UMI
Deriving Determinants and Dimensions of Patient Satisfaction to Outpatient Anaesthesia Care

by

Donald Fung

A thesis submitted in conformity with the requirements for the degree of Masters of Science
Graduate Department of Community Health
University of Toronto

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0-612-28743-2
ABSTRACT

Deriving Determinants and Dimensions of Patient Satisfaction with Outpatient Anaesthesia Care

Donald M.Y. Fung, Masters of Science, Health Administration, 1997
Department of Community Health
University of Toronto

The aim of this study was to generate valid determinants and dimensions of patient satisfaction with outpatient anesthesia care. The study involved telephone interviews with twenty surgical outpatients, a Delphi technique with an international panel of anesthetists, followed by nominal rankings of determinants in each temporal phase by a second sample of thirty outpatients and the Delphi panel. Both patients and anesthetists produced detailed comprehensive taxonomies that divided determinants of satisfaction into four temporal phases of care (pre-operative, intra-operative, pre-discharge and post-discharge) and five dimensions within each temporal phase (physical structure, technical content, interpersonal behaviour, efficiency of care, and outcomes of care). Nominal rankings could not reliably identify dimensions or determinants of greater importance. The patient-derived taxonomy derived questionnaire items that are clearer, more focused and truer to the actual concerns and needs of patients than those of anesthetists.
ACKNOWLEDGEMENTS

This thesis rests on valuable contributions from a number of key individuals. As my thesis supervisor, Dr. Marsha Cohen was critically instrumental in guiding me through the rigors of thesis development, preparation and defense. I would like to thank Drs. Rhonda Cockerill and Michael Murray for their well needed support, insights and suggestions as the thesis was being planned and written. I am grateful to Dr. Hugh Devitt and the entire Department of Anaesthesia at Sunnybrook Health Science Center for allowing me the opportunity and time to pursue a Master’s degree. The invaluable assistance of Donna Polyak is also gratefully acknowledged. Finally, I would most like to acknowledge the quiet but unwavering support of my wife, Sharon, without which this thesis would not have been possible.
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INTRODUCTION

In clinical settings such as anaesthesia, there is potential merit in the use of patient satisfaction to monitor quality of clinical care. For the patient, satisfaction represents, at least in theory, an evaluation (or grading) of one's health care experience based on one's own values, perceptions, and interactions with the health care environment. For health care providers, patient satisfaction is a means to assess the actual impact of the structure, processes, and outcomes of care on patients themselves. It especially may reflect many facets of care not easily examined in any other manner; compassionate bedside skills, efficient attendance to needs, participation in decision-making, and adequate communication and information. Furthermore, it allows patients an opportunity to indicate to their health care provider outcomes that are truly important. An ideal measure of patient satisfaction, therefore, could provide unique feedback on the quality of practice for medical specialties such as anaesthesia.

Authorities in anaesthesia quality and outcomes research are also urging a renewed focus on patient satisfaction as a clinical endpoint and a quality indicator of anaesthesia care. In a study tracking major, intermediate, and minor outcomes of all anaesthetics (N= 37,000) given at four teaching hospitals in Canada during 1988-89, Cohen and Duncan have demonstrated the limitations of using adverse anaesthetic events to monitor anaesthesia care. Major outcomes (death and major complications such as myocardial infarction, cardiac arrest, and severe brain injury) are too rare to allow useful comparisons between institutions. The assessment of minor outcomes (such as pain and nausea) must still overcome significant methodological hurdles of uncertain case mix, inconsistent reporting compliance, imprecise definitions, and under and over-
reporting. Orkin, Cohen, and Duncan, in an editorial commenting on a large randomized trial of pulse oximetry in anaesthesia, emphasized the still unproven relationships between most intermediate events (for example, transient intra and post-operative hypoxemia) and clinically significant adverse events (death, myocardial infarction, etc.) and the difficulties in establishing those relationships. They also suggest that, in light of the demonstrated safety of anaesthesia, the field may have indeed become very much a "victim of (its) own success" and that a redefinition of what constitutes important anaesthetic outcomes is necessary. This is echoed in a recent review of quality models for anaesthesia care by Eagle and Davies, who cite preliminary evidence of the benefits of examining positive outcomes such as patient satisfaction. In an accompanying editorial, Duncan states that quality in anaesthesia should encompass that which satisfies all of its customers (which includes surgeons, administrators, fellow anaesthetists, and patients). Thus, researchers on anaesthetic outcomes and quality have articulated the need to expand the scope of important anaesthetic outcomes, and are targeting patient satisfaction as a potentially useful indicator of quality of anaesthesia care.

However, current measures of satisfaction in anaesthesia are unrefined and have uncertain reliability and validity. Traditional assessments of patient satisfaction in cross-sectional surveys have used single item questions with yes/no or Likert response formats (e.g. how satisfied were you with your care? very satisfied...very unsatisfied). These global ratings of anaesthesia care yield uniformly high scores (>80% satisfied or very satisfied). Unfortunately, it is unclear what these global ratings mean. Are patients truly satisfied with their anaesthesia care or merely expressing their satisfaction with their surgical or hospital care? Do patients base their ratings on a single major criterion (such as intact survival) or several criteria (friendliness, sensitivity,
compassion, information, communication)? Are reports of satisfaction biased by a patient's respect, trust, confidence, and gratitude to their doctors, nurses, and health care in general (a so-called halo effect)? The inability to answer these types of questions limits the utility of current measures of patient satisfaction in anaesthesia.

If anaesthetists hope to use of patient satisfaction as an outcome that can truly help monitor the quality of anaesthesia care, a better measure of patient satisfaction that has proven reliability and validity is needed. The route to establishing such a measure of patient satisfaction in anaesthesia care is not a simple one, and the rigorous path towards the psychometric development of a satisfaction questionnaire is well documented in notable efforts in a number of non-anaesthetic health care settings. As with established questionnaires from nursing, hospital, and ambulatory primary care, a psychometrically constructed patient satisfaction scale for anaesthesia care would be comprised of multiple items that rate specific elements of a patient's care. These items would represent what patients value most in their anaesthesia care. Although sophisticated quantitative methods can help reduce and refine items in the development of a reliable and valid questionnaire, the content validity of final items relies on a qualitative phase of item generation that has carefully defined and articulated all important determinants of patient satisfaction. From this list of determinants valid items for a multi-item questionnaire will emerge.

As a prelude to questionnaire construction, this study will undertake a rigorous phase of item generation. It will use formal qualitative methods to generate a comprehensive list of those elements of day surgery that determine patients' satisfaction with their anaesthesia care. A list of these elements, grouped into dimensions, will provide preliminary insight into the manner by
which patients view and evaluate their anaesthesia care, and will serve as a source of valid items and dimensions for a multi-item patient satisfaction questionnaire specific to anaesthesia.
STUDY OBJECTIVES

In this study, both surgical outpatients and anaesthetists were first consulted to construct a list of elements and dimensions of outpatient anaesthesia care that determine patient satisfaction with that care. A nominal ranking survey was then used to examine the relative importance of elements and dimensions of anaesthesia care within each temporal phase of care.

The major objectives of this study are:

To conduct interviews with surgical outpatients in order to develop a list of the elements of anaesthesia care that patients feel determine their satisfaction with their care. To derive from the list of elements, the dimensions of care into which these elements naturally group.

To obtain a similar list of elements and dimensions of anaesthesia care anaesthetists feel are important in determining the satisfaction of their patients.

To use a nominal ranking survey to determine the rank order of a set of elements of care within each temporal phase of anaesthesia care.

To assess the ability of anaesthetists to predict the rank order given by patients to the elements of care in each temporal phase.
The following discussion hopes to frame the development of a new patient satisfaction instrument in anaesthesia care in the context of the known complexity of patient satisfaction and the ongoing issues in its measurement. It begins by discussing the theoretical conceptualization of patient satisfaction and its multi-dimensional structure established using psychometric questionnaires derived for a variety of health care settings. Next, it outlines the psychometric methodology that has produced these questionnaires. This methodology is founded on an initial phase of item generation that conceptually defines the determinants and dimensions of care that determine patient satisfaction - a phase that is integral to the content validity of the final instrument.

The review then turns to patient satisfaction in anaesthesia care. It briefly describes modern anaesthesia care, and then discusses the few studies in the literature that have attempted to measure patient satisfaction with this care. These studies obtained ad hoc unstandardized global ratings that possess uncertain validity, generalizability, and reliability. These limitations underscore the need for the formal development of a multi-item psychometrically standardized questionnaire comprised of items that represent those elements and dimensions of anaesthesia care that determine patient satisfaction with that care.

In a final section, the literature review discusses issues unique to anaesthesia care that can limit the ability of patients to remember and judge their anaesthesia care. To overcome this limitation, the initial stages of questionnaire construction should focus on outpatient anaesthesia, consult both patients and anaesthetists to define the domain being evaluated, and specifically
consider studies that have reported on what patients remember about their care.

A. Patient Satisfaction and Its Measurement In Health Care

i) Current Conceptualization of Patient Satisfaction

A frequently cited definition of patient satisfaction, formulated by Pascoe,\textsuperscript{18} envisages patient satisfaction as a health care recipient's reaction to his/her care - a reaction that is composed of both a cognitive evaluation and an emotional response. Pascoe's model, synthesizing concepts in psychological theories of patient satisfaction with those borrowed from theories of consumer satisfaction, goes on to propose the process by which a patient evaluates his/her care.

Each patient begins with a comparison standard against which care is judged. This standard can be one (or a combination) of the following: an ideal, a minimum expectation, an average of past experiences, or a sense of what one deserves. Furthermore, each patient has the capacity to assimilate discrepancies between this expected standard of care and that which is actually experienced. A change in satisfaction occurs when the difference between actual and expected care exceeds a patient's capacity to assimilate that difference. (Note that this change in satisfaction does not necessarily mean dissatisfaction since a patient may start out with a very low expectation of the standard of care. Actual standard of care, sufficiently above this expectation, can change a patient's initial negative opinion to a positive one.) Put simply, patient satisfaction depends on the congruence between what is expected by the patient and what occurs to the patient.\textsuperscript{17}

Much of this conceptualization, however, remains speculative and incomplete. What
psychological construct best represents a patient's actual mental state when they say they are satisfied? Is patient satisfaction a cognitively-based attitude, an emotion, an intrinsic psychological trait (e.g. a tendency to be grateful), a cultural attitude about health and health care, or some combination of all of these elements? What determines a patient's pre-existing expectation? How are different facets or dimensions of care incorporated into a global rating of overall care? What determines the capacity of a patient to assimilate a discrepancy between expected and actual care?

Psychological models of satisfaction, such as Pascoe's, appreciate its underlying complexity but are currently too preliminary to guide the construction of a valid measure of patient satisfaction.

ii) Multiple Dimensions of Satisfaction

As well as possessing a complex psychological foundation, patient satisfaction can also be divided into conceptually distinct dimensions of care. These dimensions initially emerge from qualitative analysis of the actual health care domain being evaluated; valid items that represent patient perceptions of their care in that domain are grouped into major themes. These themes, or dimensions, appear to differ depending on what is being evaluated.

Patient evaluations of broad health care domains (such as primary ambulatory care and hospital care) require a satisfaction questionnaire containing many dimensions spanning broad attributes or components of care. For example, to evaluate primary ambulatory care practice, the Patient Satisfaction Questionnaire (PSQ) contains eight dimensions (Table 1) that reflect components of ambulatory care (i.e. technical, interpersonal care, availability and continuity of
care, etc.). To evaluate hospital care, a generic questionnaire assessing Patient Judgements of Hospital Quality (PJHQ)\textsuperscript{13} includes a taxonomy of dimensions (Table 1) representing hospital services or phases of hospital care such as medical, nursing, admissions, discharge, and so forth.

When evaluating provider care or specific components of provider care, patient satisfaction appears to have conceptual dimensions that consistently separate this care into its technical and interpersonal components. Risser\textsuperscript{17} examined patient satisfaction with nursing care and derived dimensions of technical care, education, and trust. Similarly, care by physicians is divided into technical and interpersonal care dimensions, either within questionnaires such as the PSQ, or within instruments such as the Medical Interview Satisfaction Scale (MISS) that measure satisfaction with a specific component of physician care.\textsuperscript{12-14}

However, technical and interpersonal dimensions of physician or nursing care, while conceptually distinguishable by investigators when grouping patient perceptions, do not appear to be easily distinguished by patients in their actual responses to these items. Factor or correlational analyses of satisfaction ratings in nursing care and in ambulatory care, suggest that these technical and interpersonal dimensions are not always independently evaluated by patients: they do not emerge in factor analytic solutions,\textsuperscript{17} or responses in each dimension are highly correlated with each other.\textsuperscript{12,17,20} These results support the contention of most researchers\textsuperscript{21,22} that the interpersonal aspects of specific episodes of care (such as affect, communication, and information) are, to the patient, indistinguishable from the technical aspects of that care. In other words, patient satisfaction of a provider's care (such as an anaesthetist) could be construed as an unidimensional measure of the quality of the provider-patient interaction during an episode (or episodes) of care.
iii) **Psychometric Scale Construction**

   a) The psychometric measurement of satisfaction

   In light of its uncertain psychological foundation and potential multi-dimensional complexity, investigators universally acknowledge the inadequacy of the unstandardized single item ratings that have been previously used to measure patient satisfaction. The development of more reliable and valid instruments has followed a formal methodology of scale construction first developed by researchers trying to measure complex psychological phenomena such as intelligence. The 'psychometric' multi-item questionnaires that result are indirect measures of overall satisfaction. Rather than directly asking patients to rate their global satisfaction with overall care or a dimension of that care, patients' ratings are based on their ratings of items that probe specific events or concerns within their overall care (or a specific dimension of care) of the particular domain being evaluated. Individual item ratings can then be summed or averaged to yield a global rating or a rating of each dimension of care.

   The construction of a psychometric questionnaire follows a rigorous protocol. An initial phase of item generation develops a bank of items that hopefully will include all important elements of care that determine patient satisfaction. These items are then conceptually grouped into dimensions of care. Items and dimensions are judgmentally selected from the original bank of items and formulated into an initial questionnaire version that undergoes pilot testing on a large sample of patients. Detailed analysis of patient responses to one or more pilot tests of a maturing questionnaire version reduces the original items and dimensions into a shorter, more feasibly administered, final questionnaire version.
Statistical analysis of responses to reduce the initial pilot questionnaire into the final questionnaire version is a cornerstone of psychometric scale construction. Items that produce excessively skewed distributions or have a high rate of missing responses are eliminated. Items that truly reflect satisfaction are identified by their higher item-total or item-dimensional correlations, and better homogeneity (Cronbach’s alpha) of the dimensional and overall satisfaction scale that contain them. Reducing questionnaires to only these items yields item, dimensional and overall summed scores with less skew, greater variability, and good to excellent internal and test-retest reliability. The construct validity of scale scores is then established by observing significant correlations with alternate measures of satisfaction, such as a patient’s intention to recommend, brag about, or return to care; by possessing the ability to discriminate between hospitals; or by predicting patients who have had more patient-centred care or greater perceived improvements in their care.

However, perhaps the greatest strength of psychometric patient satisfaction scales has been the detailed attention paid to selecting those items and dimensions that optimize the content validity of the final instrument. An extensive phase of item generation yields a comprehensive list of elements of care that are important to patients. Conceptual themes that link groups of items in this list are established qualitatively with content analysis; these themes represent potential dimensions of care by which patients may rate their care. In short, psychometric scales must first define the determinants and dimensions of satisfaction in the domain of care being evaluated so that some of them can become its composite items.
b) Defining what elements and dimensions of care determine patient satisfaction

Although content validity requires that the important concerns and values of patients are represented within the scale, the concerns of patients in most health care domains remain unspecified.\(^1\) To ensure content validity, psychometric studies have formally consulted both health care providers and patients in the early stages of questionnaire construction. These consultations hoped to capture comprehensively all elements of satisfaction specific to the domain of care being evaluated.

For example, Ware and his colleagues, in developing the PSQ, collected 2600 items from a literature review of existing scales, and open-ended interviews with ambulatory care patients.\(^12\) (Items consisted of evaluative statements or comments that referred to different features or facets of the care in that setting). Content analysis of these items grouped them into eighteen dimensions of care. Drawing from these items and dimensions, study investigators ultimately constructed a 68-item pilot questionnaire (PSQ-1) containing eight dimensions.\(^12\)

Meterko and colleagues used a similar methodology to achieve content and face validity in their development of the PJHQ.\(^13\) Items were culled from three sources - a literature review, written and focus group interviews of inpatients, and interviews with hospital administrators, physicians, and nurses. A pool of 1000 items was produced. From this pool, a 46-item questionnaire was formulated by the investigators, reflecting two potential taxonomies of dimensions that had emerged in the rigorous qualitative analyses of the initial 1000-item pool of combined comments.\(^13\)

Statistical techniques are then used to further direct and/or confirm the grouping of items into dimensions. Factor analysis groups items that appear statistically to be measuring the same
thing into 'factors'. Tests of internal homogeneity compare the homogeneity (Cronbach's alpha) of subscales to the homogeneity of the overall scale and expects dimensional subscales. If valid, to possess better homogeneity than the overall scale. Finally, in discriminant multi-trait testing, each item’s correlation with its own dimensional scale is compared to its correlation with the overall scale, and that of other dimensional scales. If dimensions are valid, an item’s correlation with its own dimension is expected to exceed its correlation with the overall score, and its correlation with the scores of other dimensions.

While sophisticated quantitative techniques are valuable tools to confirm the existence of multiple dimensions, it is important to emphasize that the conceptual meaning of these dimensions are derived from qualitative analysis of the initial bank of items. Statistical methods alone can group items into dimensions that do not represent elements of care. Risser’s original PSS in nursing care, for example, reported a common two-factor solution that reflected the direction of item wording. Dimensions are most powerfully demonstrated, as in the PSQ and PJHQ, when conceptual themes of care identified in item generation also emerge in factor or correlational analysis.

Key informant surveys of patients and providers early in questionnaire construction yield a comprehensive list of elements of care (grouped into dimensions of care) that determine patient satisfaction. By directly soliciting the input of patients, investigators obtain items that represent what patients actually value - that is, scale items will have content validity to patients. By soliciting the input of providers, investigators can better ensure that significant elements of care have not been missed. At the same time, accommodating the insight and emphasis of providers during item reduction improves the face validity of the final instrument to the providers who will
ultimately use it. Consulting both patients and providers of care during a phase of item generation, therefore, maximizes the content and face validity of the items in the final instrument.

B. Patient Satisfaction With Anaesthesia Care

i) The Domain of Anaesthesia Care

The specialty of anaesthesia has expanded beyond its traditional role of solely “giving the anesthetic” to a broader role that seeks to ensure the safest and most uneventful anesthetic and recovery for the patient. To do so, the anaesthetist provides care for the patient in all three phases of peri-operative care - before, during, and after the anesthetic for the operation. Pre-operatively, he/she assesses (and improves whenever possible) the patient’s medical “fitness” for both the surgery and the anaesthetic, attends to any specific concerns and needs of the patient, and discusses the risks and choices of care with the patient. These pre-operative tasks can take place at the outpatient pre-anesthetic clinic and/or in hospital after the patient has been admitted. Intra-operatively, the anesthetist tailors the choice and administration of the anesthetic (local or general anesthetic) to the medical condition and wishes of the patient, and monitors and responds to changes in the patient’s condition. Post-operatively, he (she) manages the patient’s post-operative pain, monitors and treats side effects from anesthetic agents, diagnoses major and minor complications (anaesthetic or non-anaesthetic) that may occur and directs the patient’s appropriate monitoring and treatment, and finally determines the point at which patients can be safely discharged from their care to the ward or, if an outpatient, home. Thus, current
anaesthesia care is, in fact, a continuum of care that stretches across the patient’s entire surgical experience.

ii) **Current Measurements of Patient Satisfaction in Anaesthesia Care**

The body of literature on patient satisfaction with this continuum of care is sparse and unfocused. A careful search of Medline from 1966-1996 revealed that no investigator had undertaken a theoretical study of patient satisfaction with anaesthesia care, or rigorously developed or tested a patient satisfaction instrument. Sixteen studies were found that attempted to measure overall patient satisfaction (either directly or indirectly) in a large sample of patients (N > 100) (Appendix 1).9,11,29-42

Ten investigators reported on patient satisfaction as part of a post-operative audit of patient care in their day surgery unit, their hospital, or for a specific outpatient surgical procedure. (Two studies measured patient satisfaction as the sole purpose of their study; these were also the only studies that used a multi-item rating of satisfaction.) Two multi-center studies tracked a wide range of patient outcomes to monitor the effectiveness and quality of anesthesia care in a large number of patients (N > 4000, N > 6000). In these studies, patient satisfaction was only one of many outcomes measured. Four studies used questionnaires containing open and closed ended questions to discover patient perceptions of their care; three of these four studies conducted face to face patient interviews.

All studies used *ad hoc* ratings. Six studies rated patient satisfaction directly29-33,42. In one of these studies,42 the exact measure used could not be ascertained from the limited description given. Ten studies used a single item measure that indirectly reflected a patient’s
overall satisfaction. Of these ten, three asked if patients had any problem or complaints with the anesthetic; two asked if the patient would consider having the same anaesthetic again; three asked if the patient would consider having the procedure as a day surgery patient again; and one study asked patients if they were happy with day surgery services.

Closer scrutiny of these studies reveals the substantial limitations noted earlier that undermine ad hoc measurements of patient satisfaction.

iii) The Limitations of Current Ratings of Satisfaction With Anaesthesia Care

a) What are single item scales measuring?

The results of single item ratings in all studies, taken at face value, offer reassuring evidence to anaesthetists that 80 - 100% of patients are satisfied or very satisfied with their anaesthesia care. But, are these ratings of satisfaction a true indication of the care that patients had received? That they may not be is dramatically demonstrated by the woman described in Keep's study who claimed she was “satisfied” with her general anaesthetic despite being awake for her operation! Indeed, a number of patient and methodological factors may promote significant discrepancies (as in the patient above) between the actual quality of care received by the patient and the satisfaction with that care reported in a single item rating.

First, in settings of real or perceived high risk, such as an operation or an anaesthetic, satisfaction ratings may be dominated by a sense of relief that the operation or anaesthetic is safely over. As a result, patients who state they are satisfied may be merely expressing their appreciation and gratitude to the providers that “got them through it”. This could explain several of the observations reported by King in which 98 - 99% of patients rated their satisfaction with
physicians and nurses as "superior" (the highest possible rating) while only 70-80% rated their satisfaction with nonprofessional staff and their environment as "superior".

Second, immediately following surgery patients may be unwilling to criticize their doctors and nurses. This reticence may be due to a patient’s trust in the health care system, a belief that everyone has and is “doing their best”, or a fear of jeopardizing any future care by being overly critical. As first pointed out by Pascoe, these “psycho-social artifacts” in the health care environment threaten the validity of all satisfaction measures.18 They may play a particularly important role in satisfaction ratings obtained from patients still receiving care in the hospital. In anaesthesia, these artifacts may account for the extremely high levels of patient satisfaction (100%) found in those studies in which satisfaction ratings were obtained from in-hospital patients in face to face interview settings.31,37

Third, patients, when evaluating their care, may be more likely to recall or may place disproportionate weight on positive impressions rather than negative ones. If this is so, then even major deficiencies in care can remain undetected. A tendency to report only positive events may be one reason why few patients (10%) spontaneously recalled anaesthetic complications when these complications are asked for in a general way (did you have a problem with your anesthetic?) while the majority (>80%) of the same patients identified at least one complication that occurred to them from a list of specific complications.36

b) What are multi-item scales measuring?

When multi-item scales are used, there is more discrimination than single item ratings.29,30 These scales tended to identify more patients who reported lower degrees of satisfaction with
anaesthesia or outpatient care (5-30%) as compared to those studies using single items (0-10%).

However, lower scores are meaningful only if the items of these scales represent those elements of patient satisfaction of most importance to patients. Inadequate attention to defining what these elements are during scale construction has yielded items and scales possessing dubious content validity.

For example, in his audit of patient satisfaction in a day surgery unit, Ghosh\textsuperscript{39} reported high levels of patient satisfaction (>80% had above average scores) in several “areas” of care (day surgery unit, admission information, operation information, anaesthetic information, pain control, post-operative management, and privacy were the only ones specified). Unfortunately, these areas of care may not in fact correspond to the way patients view their care nor reflect what patients most value in their care. Furthermore, the wording of the items failed to describe in detail what each area of care represented. In fact, if items were similarly worded in the actual questionnaire, it is likely that patients themselves would not know what specific features of their experience each item was referring to. What were patients really considering as they responded to each item?

In a similar ad hoc way, King\textsuperscript{30} divided her scale into two dimensions (staff and environment) and selected four “items” for each dimension. She reported that more patients (>98%) rated the medical and nursing staff items (within the staff dimension) as satisfactory or superior than clerical or porter staff items or any item in the environment dimension (70-80%). Since the exact wording of the items was not provided, it is again unsure what exactly patients were rating. Were patients actually rating these items based on their own present experience or
past experiences; or did their rating merely reflect their pre-existing opinion of the professions of nurses, doctors, etc.?

c) Can current measures detect differences between patient populations?

Oversights in survey methodology reduced the generalizability and validity of each study’s results. The studies listed in Appendix 1 have all failed to consider or track crucial variables consistently such as the manner by which patients were sampled, patient characteristics such as demographics, self-reported health status and pre-operative expectations, the case mix of their institutions, the characteristics of non-respondents, and the exact timing of questionnaire administration. Each of these factors have known influences on patient ratings. Results of studies that fail to account for these modifying or confounding variables are difficult to interpret and may not be generalizable to other institutions or even to other surgical outpatients within their own institutions.

In addition, no study has demonstrated the reliability of its patient satisfaction measure. The study of Cohen et. al. reported the inter-rater reliability of its survey instrument on 75 patients (K > 0.96) but the reliability of its single item rating of patient satisfaction was not specifically assessed. Test-retest reliability of a patient satisfaction rating in anaesthesia has not been measured nor has the internal consistency of multi-item scales of satisfaction (a measure of intra-rater reliability).

Rigorous development of a measure by investigators such as Ware, Meterko, Risser, and others have been able to establish acceptable levels of reliability (Spearman rho or Cronbach alphas >0.6); but caution has been voiced that this property needs to be re-established
for all instruments and even for established instruments applied to new domains. Otherwise, differences in levels of satisfaction within and between patient groups may be entirely due to the imprecision of the satisfaction instruments used, and may not reflect differences in actual quality of care.

iv) Towards a Better Measure of Patient Satisfaction

In summary, ratings of satisfaction so far obtained in the anesthetic literature may not have measured satisfaction with anaesthesia care. They are to an uncertain extent dominated by patient attitudes and feelings of gratitude and trust in the hospital, surgeon, anaesthetist, and nursing staff. Single global ratings in particular appear insensitive to actual deficiencies in care. A valid and reliable measurement first requires a multi-item questionnaire composed of items representing valid determinants of patient satisfaction specific to anaesthesia care. The route to such an instrument in other health care settings has been a psychometric one.

C. Preliminary Issues Specific to Anaesthesia Care

i) Optimizing Signal to Noise

The development of a patient satisfaction instrument for anaesthesia care is challenging. The “noise” within the peri-operative environment care can frequently obscure the “signal” of anaesthetic care. An impaired mental or emotional state due to medical co-morbidity or the surgical condition that may begin pre-operatively, the lingering effects of general anaesthetic agents, the use of potent intravenous narcotics to manage post-operative pain, and the occurrence of transient post-operative confusional states following major surgery may leave some patients
amnesic or unable to judge all or parts of their peri-operative experience.

In this light, outpatient anaesthesia provides the optimal circumstances to isolate the signal of satisfaction due to anaesthesia care. In outpatient anaesthesia, patients have minimal pre-existing surgical disability, little or stable co-morbid conditions, and the least interaction with the surgeon or other disciplines of care in the hospital environment. More importantly, patients receive anaesthetic regimens aimed at the rapid recovery of patient awareness and judgement. In addition, the use of parenteral narcotic medications are minimal or absent for outpatient anaesthesia. Finally, the spectrum of surgery now suitable for outpatients guarantees a reasonable heterogeneity of patients that helps improve its generalizability to inpatient settings.

ii) Overcoming Incomplete Patient Knowledge

The results of preliminary studies assessing the state of patient knowledge about anaesthesia care question the ability of patients alone to distinguish anaesthesia from non-anaesthesia aspects of their care. Substantial proportions of surveyed patients continue to be unaware of what anaesthetists do or are capable of (Table 2). Clearly, unless patients become better informed as to what anaesthesia is, patients alone may find it difficult to judge their anaesthetic care from that conducted by the remainder of the peri-operative team (surgeon, internists, respiratory therapists, physiotherapists, etc.).

Patients who are naive of the boundaries and intricacies of anaesthesia care, however, can still evaluate that care through a questionnaire instrument that focuses patient ratings onto important features and dimensions of their recalled peri-operative experience that remain specific to their anaesthesia care. Since the selection of these items requires an understanding of what the
domain of anaesthesia care is, item generation for a patient satisfaction instrument specific to anaesthesia care, perhaps more than other settings of health care, requires the judgement and participation of anaesthetists.

iii) A Preliminary List of Items Based on Patient Perceptions of Anaesthesia Care

Surveys conducted on patients by anaesthetists over three decades in three continents have yielded a large list of patient perceptions of their anaesthesia care (Table 3). The items in this list provide a broad description of the entire peri-operative period and are remarkably consistent from survey to survey. Therefore, even though individual patients may have patchy recall of their anaesthesia experience, it is conceivable that impressions of patients can be combined to depict the overall quality of anaesthesia care. In addition, the perceptions listed in Table 3 may also offer potential items (divided into temporal phases of care) for a psychometric scale specific to anaesthesia care.

Unfortunately, the items on this list are noticeably dominated but what patients actually felt (pre-op fears, pain, etc.) rather than what patients actually wanted (more information, more communication, etc.). These surveys reported their results from open and closed ended items that focused primarily on what patients recalled in their care but not the affective or subjective connotations associated with each recollection. These connotations are integral to patients' ratings of satisfaction with their care. As a result, asking patients to describe what determined their satisfaction may yield altogether different items than asking them to describe what they perceived.
Furthermore, these surveys did not seek the input of patients in the selection of the closed ended items used. Therefore, these surveys reflect, to an uncertain extent, the biases of the anaesthetists who constructed them. Given that clinicians frequently misjudge the desires and satisfaction of their patients, it remains unclear that all patient concerns or their true priorities are known.

D. Summary of Literature Review

Psychometric methodology has become an established means of constructing multi-item multi-dimensional patient satisfaction scales for hospital, ambulatory and nursing care. The inadequacy of current ratings of patient satisfaction support the need for such a questionnaire in anaesthesia, and an early focus on outpatient anaesthesia care may better yield a patient satisfaction instrument specific to anaesthesia care.

The development of psychometric scales begins with a formal phase of item generation that produces a comprehensive list of items from which scale items are drawn. Generating a valid bank of items requires the direct input of both outpatients who have experienced general anaesthesia and the anaesthetists providing their care. Using these key informants, a list of elements and dimensions of patient satisfaction can be generated that resonates with the values and perceptions of patients and encompasses the domain of anaesthesia care. Deriving a list of these elements and dimensions will improve current theoretical understanding of the nature of patient satisfaction with anaesthesia care and constitutes the first step in the psychometric construction of a more valid multi-item measure of patient satisfaction specific to anaesthesia care.
METHODS

A. Protocol Synopsis

This study used separate but concurrent consultation processes with anaesthetists and surgical outpatients (see Figure 1). Within each consultation arm, data collection was conducted in two discrete stages: an initial process devoted to item (and dimension) generation, and a subsequent item evaluation phase that sought to discover the priority of items. Care was taken to ensure that the generation of items by both groups was spontaneous and occurred independently of each other.

For the consultation with anaesthetists, a panel of anaesthetists was contacted using a Delphi technique\textsuperscript{3} that consisted of three questionnaire iterations. The first iteration asked the panel of anaesthetists to generate a list of elements and dimensions of anaesthesia care that they and their colleagues felt to be important to patient satisfaction. A second iteration allowed the panel to add to, expand on, or modify the element sand dimensions developed in the first iteration.

In the third Delphi iteration, the Delphi panel was asked to compare the list of elements and dimensions that resulted from the second iteration to a list that was generated from patient interviews, and to edit further their own list of elements and dimensions. In addition, panel members were asked to predict the top three patient-ranked items in each section of the patient survey described below.

At the same time, of 20 surgical outpatients were interviewed individually. Content analysis of these interviews produced a comprehensive list of patient-valued elements of their
care which were subsequently grouped into dimensions of care.

A mailback survey was conducted on a second group of 30 surgical outpatients that asked patients to individually rank those elements that were the most important to each temporal phase of anesthesia care.

"Elements of anesthesia care" refers to the discrete actions, facets, features or events of anesthesia care or the anesthesia experience through which patients appeared to evaluate their anesthesia care. "Dimensions of care" were derived from the themes that linked elements of care into natural groupings. The derivation of elements of care and dimensions of care proceeded separately for anaesthetists and patients. As the content analysis of this data was undertaken, the basic units of raw data were those comments made by either patient or anaesthetist that described anesthesia care in an evaluative, positive, or negative fashion. Each comment was transformed into the element(s) of anesthesia care to which it referred. Elements of care supported by more than one comment were reworded to reflect all supporting comments. Elements of care that shared common themes were then grouped; the themes that appeared to be uniting these elements of care became dimensions of care, again worded in the best fashion to reflect its composite elements.

With the exception of the use of a research assistant or nurse who recruited patients for interviews and for the mail-back survey, the collection and analysis of all data from patients and anaesthetists was undertaken solely by the author.
Consulting Anaesthetists

i) The Delphi Technique

In this study, a Delphi technique was chosen because it is an established method of achieving group consensus.\textsuperscript{53-55} A central moderator co-ordinates rounds or iterations of mailed questionnaires sent to a panel comprised of 9 - 15 experts. Each panel member is provided with the same information and interacts and communicates only with the moderator. At the outset, all panel members receive a clear statement of the problem or task, a description of the Delphi technique itself, a brief literature summary of the problem, and the first questionnaire iteration. Panel responses are mailed back to the moderator and analysed using formal qualitative methodology to summarize or pool the responses.\textsuperscript{53-55} After the first iteration, this analysis of pooled responses directs and constitutes feedback for the next round of questions. This feedback process is carried out in a manner that maintains the anonymity of panel members. The Delphi panel converges onto a group opinion through successive questionnaire iterations. It is rare for this convergence to require more than three to four iterations.\textsuperscript{54}

As a consensus group method, the Delphi technique can formally divide problem solving into two separate and distinct stages: idea generation followed by idea evaluation. This separation improves both the number and quality of ideas or solutions generated by the group.\textsuperscript{53} Structured anonymous feedback and converging iterations can produce a group consensus more efficiently and democratically than unstructured group processes.
ii) The Delphi Panel

In an effort to match the potential diversity of outpatient anaesthesia practice, the initial list of anaesthetists sought a wide geographical representation, and representation from tertiary care, academic, and community anaesthetists. The anaesthetists contacted consisted of recognized leaders in outcomes research and outpatient anaesthesia research, academic tertiary care anaesthetists, and experienced community hospital anaesthetists.

The number of panelists was chosen to balance the increasing logistical difficulties in co-ordinating a panel of anaesthetists that was too large, and the desire to ensure that the panel would be considered credible and representative by the majority of anaesthetists. A panel of 9-15 was considered ideal. A total of 15 members was enlisted at the outset based on a conservatively estimated response rate of 60% through three iterations. As it turned out, all 15 potential panelists approached agreed to participate, and panel membership remained intact throughout the three Delphi iterations. Eleven anaesthetists were approached from Canada, one anaesthetist from Great Britain, and three anesthesiologists from the United States.¹

All anaesthetists were first contacted by telephone. After a brief explanation of the study goals and the Delphi process, each was asked if they were willing to participate. The first questionnaire iteration was sent by mail and consisted of a cover letter, a brief literature summary, and a questionnaire, was sent by mail.

¹In Canada and Great Britain, physicians administering anaesthesia are referred to as anaesthetists. In the U.S., specialist physicians giving anaesthesia are known as anesthesiologists.
Generating The Elements and Dimensions of Anaesthesia Care that Determine Patient Satisfaction

a) First Delphi Iteration

The primary task of the first two Delphi iterations was to solicit from each panel member a list of those elements of anaesthesia care that determined patient satisfaction and dissatisfaction. Panel members were provided with a concise literature review followed by four opened-ended questions (Appendix 2). All members were strongly encouraged to be expansive and comprehensive in their responses.

Two initial questions, on the quality of care and the clinical utility of a measure of patient satisfaction, sought to ascertain the readiness of anaesthetists for a formal measure of satisfaction in outpatient anaesthesia care. More importantly, by first presenting these two open-ended questions, it was hoped that panel members would then consider the next two questions on what determined patient satisfaction and dissatisfaction in the context of anaesthetic quality and its clinical usefulness to anaesthetists. This context would hopefully invite comments covering the entire peri-operative domain.

The two final questions asked the panel to list the elements of care that, in their clinical experience, determined the satisfaction of outpatients who had undergone general anesthesia. Panel responses were examined and transcribed into separate lists of elements of care for each panel member. Responses that appeared to be referring to similar elements of care, in two or more lists of panel members, were reformulated into the same item on all lists. The separate lists of unique elements of care from each panel member were subjected to content analysis in order to derive dimensions of patient satisfaction (see Section D for
specific details of the mechanics of this analysis). It should be emphasized that these dimensions were not pre-determined but emerged from the analysis of the groupings of similar elements of care.

b) Second Delphi iteration

The second iteration allowed panel members the opportunity to expand and improve on the list of elements and a matrix of dimensions of care that had resulted from the content analysis of the first iteration. Panel members were asked to add to, modify, or eliminate elements and/or dimensions in this matrix. Incorporating all suggested revisions resulted in a new revised taxonomy of elements and dimensions. This revised list yielded no further comments or additions when reviewed by the panel in the third iteration.

iv) Third Delphi Iteration: Ranking Elements and Dimensions of Anaesthesia Care

In the third iteration, the panel was asked to rank dimensions and elements of care that had resulted from patient interviews. As feedback, the panel was provided with the list of dimensions and elements that had been obtained from patient interviews as well as the list obtained from the panel in the two initial iterations.

Panel anaesthetists were asked to predict the results of a patient survey that had asked patients to evaluate four lists of nine items representing each of the four temporal phases of their general anesthesia care. Surveyed patients had been asked to select the three most important elements (ranked from 1 - 3) that they would like to see in their future anaesthetic care. (See Section C. (ii) for further details on patient survey construction). Each
anaesthetist was asked to predict the top three items in each list (in ranked order) that would emerge from the patient survey.

Final mailed feedback at the conclusion of the study provided all participants with a summary of study results.

C. Consultations With Patients (Concurrent)

i) Generating Elements and Dimensions of Care Directly From Patients

a) Interviews with surgical outpatients

After institutional ethics approval, a convenience sample of surgical outpatients was recruited from Sunnybrook Health Science Centre by a research assistant over a one month period of time. Eligibility criteria consisted of adult outpatients over 16 years of age who were undergoing a procedure requiring a general anaesthetic and who were not having a therapeutic termination of pregnancy.

While still in the outpatient department awaiting surgery, eligible patients were given an information sheet describing the nature of the study. Those willing to be interviewed on or about the third day post-operatively were asked to sign a written consent form. The consent form also asked for their phone number and a time they wished to be called during the day. Preliminary demographic data (age, gender, type of procedure, and date of procedure) were collected on a patient data sheet attached to the consent form.

The order of patient interviews was determined by when they agreed to participate, and their ability to be reached by phone starting on the third day post-operatively. Although the majority of patients required more than one phone call, all patients were interviewed by
the sixth post-operative day. The exact number of patients interviewed was determined by the results of the analysis of responses that immediately followed each interview (see Section D). A sufficient number of patients (ultimately twenty in total) was felt to have been obtained when no new elements and dimensions of care had emerged from the analysis of three consecutive patients interviews.

The interviews proceeded as follows. At the beginning of each interview, verbal consent was obtained to record all interviews on audio tape. Telephone interviews followed a flexible open ended questionnaire format (Appendix 3). Preset questions were used to help initiate and end the interview; in the remainder of the interview, a rigid questioning schedule was not followed. Rather, patients were guided through their anaesthesia experience and asked to described what they remembered of each phase of their anaesthesia care (before, during, and after their anaesthetic). Significant experiences or incidents recalled by each patient prompted more detailed questioning and specific attention was directed towards elucidating the positive or negative connotations of all recalled experiences.

Having taken patient through a tour of their entire peri-operative experience, the interviewer then asked two specific questions. First, each patient was asked what they would say or do to prepare a family member or friend about to have a general anaesthetic. Secondly, they were asked what two or three features of their anaesthetic care would they most like to see in their future outpatient anesthesia care. At the conclusion of each interview, patients were asked to provide demographic details: age, occupation, ethnic background, level of education, and surgical procedure.
The taped interview of each patient was transcribed verbatim on the same day as the interview. Unfortunately, technical difficulties resulted in poor to absent sound quality (recognized only following the completion of the interview) in four of the twenty patient interviews. For these four interviews, details of the interview recalled by the interviewer were immediately written down at the conclusion of the interview. Thus, a written record for all patients was available of what had transpired in the interview; 16 of 20 patients had a verbatim transcript of the interview itself. Content analysis was then used to obtain elements and dimensions from interview transcripts (see Section D).

ii) Ranking of Elements of Anesthesia Care by Patients

From patient interviews, content analysis was used to group elements of patient satisfaction into dimensions of care. From this analysis, four temporal phases of care emerged - pre-operative, intraoperative, post-operative, and post-discharge care - and five dimensions of care emerged - structure, technical, interpersonal, efficiency, or outcomes of care [see Section D (ii)].

To determine the relative importance of specific elements to each temporal phase of care, a written mailback questionnaire was constructed and administered to a new group of surgical outpatients in which they were asked to rank the top three elements of care out of a list of nine elements chosen to represent care in that temporal phase.

a) Survey methodology

A new sample of surgical outpatients from a large tertiary metropolitan hospital (Sunnybrook Health Science Centre) and a small community hospital (North Bay General
Hospital) was surveyed. All respondents were adults 16 years of age and older, who had undergone a general anaesthetic irrespective of surgical procedure, and who were not having a therapeutic abortion.

Recruitment of patients occurred immediately after admission to the outpatient ward. The nature of the study was described on an information sheet handed out to eligible patients by a research assistant (SHSC) or the admitting nurse (NBGH). The research assistant or nurse then obtained from willing patients a signed consent form, ensured the completion of a simple coded patient data sheet, and placed a take-home questionnaire package including the information sheet, the questionnaire, and a self addressed stamped envelope with the patient’s belongings. The questionnaire package taken home by the patient included written instructions to complete it on or after the third day following surgery. A follow-up phone call between the 4th to the 7th day (at a time of the patient’s choosing) was made to respond to patient concerns, and to encourage patients to (or thank patients for) a timely response to the questionnaire. To track non-respondents, patients were identified on the returned questionnaires by an identification number that linked each questionnaire to the patient data sheet and consent form.

A convenience sample of patients was recruited consecutively from the outpatient department of both hospitals over a two week period. Ten patients at SHSC and 35 patients at NBGH signed a written consent form and received a questionnaire package to achieve a desired sample size of 25 patients, assuming a conservatively estimated response rate of 60%.

The desired sample size of 25 respondents was based on three considerations. First, the two-week hospital period needed to collect this number of patients results in a reasonably
heterogeneous sample of the institution’s outpatient general anesthesia case-mix. Second, pre-test data (see below) suggested that 25 sets of responses, when combined, would generate a reasonable rank order to all nine items of each list. Third, a final sample of 25 patients out of a total 45 patients surveyed was achievable within the study’s limited resources and budget.

b) Constructing the ranking questionnaire

Four lists of nine items was constructed, one for each temporal phase of care, each list presented on a single page. On each page, patients were asked to rank the top three items that described what they would most like to see in their future anaesthesia care (Appendix 4).

Each item articulated one or two elements of care, using as much as possible, the wording derived from the interview transcripts. All five dimensions of care within each temporal phase of care were represented in the nine items. The overall number of elements (n = 9) was chosen as a compromise between the desire for patients to evaluate as many elements of care as possible against the fact that patients would be unable to evaluate all items equally if too many items were included. That is, a list containing greater than nine items would have resulted in later items remaining unread or incompletely considered and would have promoted a powerful bias towards items presented first in the list.

Many items within each list contained more than one descriptor and some were deliberately worded as to overlap two dimensions (for example, "I go to sleep pleasantly, quickly and smoothly" reflects both the technical content and outcomes of care dimensions in the operating room phase of care). Although the potential ambiguity of double barrelled
items is well recognized, it was apparent from the results of patient interviews that patients appeared to remember and evaluate their care according to discrete events or statements that involved more than one descriptor and that reflected more than one dimension of care. Therefore, items formulated using multiple descriptors appeared to capture better the nuances and richness of what the patient had actually experienced and seemed more in keeping with the way patients viewed, remembered, and evaluated their care.

Pre-testing of these lists on lay subjects (n=5), and on tertiary care anaesthetists (n=5) established their feasibility and their comprehensibility. All pre-test questionnaires were easily completed with no missing or incomplete responses. The pre-test further evaluated two possible response formats: asking patients to choose the top three items in each list or rating each individual item on a scale of not important to very important. Based on actual comments solicited from respondents in the pretest, ranking the top three items on each list required respondents to more carefully consider all items, demanded that respondents “commit themselves” to certain items, and was more likely to uncover which of the elements listed was most preferred in each respondent’s care.

D. Qualitatively Deriving a Dimensional Taxonomy

i) From the Delphi Panel of Anaesthetists

a) Analysis of responses to the first Delphi iteration

Content analysis was used to derive dimensions offered by the Delphi panel from the elements of care which they felt determined patient satisfaction or dissatisfaction. This analysis was conducted as follows. Responses from an initial panel member (chosen at
random) were transformed into a list of elements of care important in the satisfaction or dissatisfaction of patients. These elements of care were then grouped (coded) according to themes or dimensions of care that appeared to be linked. Responses from the next panel member were similarly formulated into a list of elements of care; this list was examined for the extent to which its elements conformed with previously coded themes or dimensions. New elements or dimensions suggested by the responses of any one panel member required a re-examination of all prior lists of elements to establish the fit of new elements with old dimensions and the fit of new dimensions with previously listed elements. In such a serial and iterative manner, an initial dimensional matrix that encompassed the responses of all fifteen members was derived. These elements of anaesthesia care and the dimensional matrix of patient satisfaction were edited and revised by the panel in the second iteration.

b) Analysis of responses to the second Delphi iteration

Revisions from each panel member were analyzed sequentially beginning with a member selected at random. All new changes suggested by each panel member were incorporated directly into the taxonomy. Suggestions or comments that were common to two or more panel members were expressed as a single revision, worded to best reflect the sentiments of those members. No special emphasis or indication was given to revisions supported by more than one panel member. The revised taxonomy elicited no further revisions when reviewed by the panel in the third iteration.
ii) **From Patient Interviews**

Transcriptions of patient interviews were analyzed in two stages. First, a sequential analysis of the transcript from each patient's interview was conducted in the order that patients had been interviewed. For each transcript, all comments that evaluated a patient's care or experience (e.g. "I would have liked to have stayed longer") or comments that expressed a positive or negative connotation of that care (e.g. "Everyone was very kind") were selected from the text and formulated into a list of elements of care (Table 6). These elements in turn were grouped and coded into common conceptual themes or dimensions of care. Each subsequent transcript was examined and coded for previously expressed elements and dimensions of care (reworded if necessary to reflect the element and dimension), or evaluated for entirely new elements and dimensions of care not found in previous transcripts. New elements and dimensions forced a re-examination of all previous transcripts to see if these elements or dimensions were present in the transcripts of previous patients. In such a manner, a resultant taxonomy emerged that successfully classified all elements of care from all transcripts. The serial analysis of interviews allowed an ongoing assessment of the contribution of each additional patient interview to the evolving taxonomy; the presence of no new elements of care or dimensions of care for three successive patients was the endpoint that ended the further recruitment of patients for interviews. It should be noted that the analysis of patient interviews was done completely separately from the analysis of anaesthetists' comments.

At the conclusion of all interviews, a separate more detailed content analysis was then conducted on a pooled list of elements (without their dimensional codings) formed by
combining the lists of elements of care from each patient interview. An initial examination of this list strongly supported the division of the entire set of elements of care into four large subsets reflecting the four temporal phases of anaesthesia care. Each temporal phase was then analyzed separately from the others. Elements of care in each temporal phase of care appeared to cluster into major conceptual themes or dimensions. Codes were developed for these dimensions and each elements was coded for the dimension(s) in which it best fit. As result of this coding, elements of care within each temporal phase of care were formally assigned membership to one or more distinct broad dimensions of care.

The elements of care in each broad dimension of care were examined further for the potential presence of subdimensions (where applicable) reflecting different aspects or facets of that parent dimension. A coding scheme was developed for subdimensions if present, and each element of care within that particular broad dimension of care was re-evaluated and assigned a subdimensional coding(s). In such a fashion, every element of care was tabulated according to its coded dimensions and (if appropriate) its subdimensions. The number of elements within each temporal phase of care and the number of elements of care in each dimension and subdimension were tallied. In the final descriptive taxonomy of dimensions and subdimensions within temporal phases of care, each dimension and subdimension were supported with examples of actual patient comments drawn directly from patient transcripts.

In such a manner, a comprehensive but informal initial list of elements of care that determined patient satisfaction, pooled from all members, was organized into a detailed descriptive dimensional taxonomy in which all elements of care were coded according to membership to a particular temporal phase of care, a broad dimension within that temporal
phase, and in many cases, a subdimension within that dimension. The phases and broad dimensions of this taxonomy were virtually identical to that in the taxonomy derived from the serial analyses of patient interviews. Thus two different content analytical approaches yielded the same dimensional structure. This resultant matrix of dimensions and subdimensions within temporal phases of care formed a detailed descriptive taxonomy which successfully classified, in a retrievable and clear way, all elements of care that appeared to influence patient satisfaction as revealed in patient recollections of their peri-operative experience.

E. Nominal Rankings

i) Determining the Rank Order of Items on the Patient Survey

Each returned ranking questionnaire (from Delphi panel members or surgical outpatients) was analyzed as follows. The top three ranked items of each temporal phase were assigned numerical weights; rank 1 received a score of 3, rank 2 a score of 2 and rank 3 a score of 1. The items of each list were then summed over all completed responses (n = 26 for patients, n = 15 for anaesthetists), yielding a ranked order of all nine items based on the aggregate scores of each item.

ii) Comparing Ranked Order of Items of the Patient Survey Predicted by Anaesthetists with that Obtained from Patients

The extent of agreement of the overall ranked order of the nine items of each temporal phase (based on aggregate scores of each item) between patients and anaesthetists was
estimated using a Spearman correlation coefficient.

F. **Statistical Analysis**

Spearman correlations were used to assess the agreement between the rank orders of patients and anaesthetists in the patient survey.

G. **Ethical Considerations**

The study was approved by the Ethics Review Committee at Sunnybrook Health Science Centre. All surgical outpatients, in both the patient interview and patient survey phases of the study, were provided with an information sheet describing the study’s intent and requirements, and invited to participate by signing a written consent form. Since patients were recruited before their anaesthetic, patients may have felt unduly pressured to participate if approached by an anaesthetist (either due to a fear of jeopardising their care or a desire to please). Therefore, all patients were recruited by either a research assistant or the admitting nurse. For all patients, telephone contact was initiated only at the phone number and the time of day indicated by the patient on his/her signed consent form.

Patient confidentiality was respected throughout. Audio recordings of each telephone interview was made only after obtaining the verbal consent of each patient at the time of interview. Patients were assured on the information sheet that all provided information during the interview or on the survey would be kept anonymous, held in the strictest confidence, and used only for the purposes of this study. Patient transcripts were kept separate from both the signed patient consent form and demographic data sheet, and
identified only by patient initials. Patient survey responses were tracked with identification numbers and were also stored separately from patient demographic data and consent forms.

Delphi panel members were invited to participate both by telephone and in the cover letter of the first Delphi iteration. Return of a completed questionnaire was considered consent. All members were assured of the anonymity of their responses. All panel members will be formally acknowledged in any publication of study results.
RESULTS

The results of this study will be presented according to the three stages of data collection. The demographic characteristics of each sample of subjects will be presented together with the results of the corresponding data collection stage.

In the first stage, the list of the elements and dimensions of anaesthesia care derived from a Delphi panel of anaesthetists will be presented. For the second stage, a list of the elements and dimensions of care derived from detailed interviews with surgical outpatients will be described. Results of stage two will be by two major categories. First, patient comments which yielded important qualitative insights into how patients evaluated their anaesthesia care will be described. Secondly, the content analysis of patient interviews which yielded detailed list of elements and dimensions of care that represented what patients evaluated in their anaesthesia care will be provided.

The third stage of data collection will describe the results of the nominal ranking survey from the sample of outpatients and the Delphi panel. Again, the results of these nominal rankings will be presented in two sections. First, the rank order of items in each temporal phase, based on the aggregate rank scores of each item, provide a preliminary indication of the priorities given to elements and dimensions of care by patients, and the ability of the Delphi panel to predict this priority. Second, a careful examination of the raw rankings of each item will be described.
A. Elements of Care That Determine Patient Satisfaction According to Anaesthetists

The demographic characteristics of the Delphi panel including name, type, and location of practice, age, sex, years of practice, and geographic location are presented in Table 4. Panel composition includes noted researchers in anaesthesia outcomes and outpatient anaesthesia research, representatives of academic and community practice, and most are currently heads or chiefs of their anaesthesia departments. All panel members practice in locations that deliver a substantial number of outpatient anaesthesia services yearly, and these locations also reflect the three major settings which together deliver the bulk of outpatient anaesthesia care - community hospitals, tertiary care centers, and free standing ambulatory day care facilities. Thus, the panel was composed of a diverse group of locally and internationally respected anaesthetists and anaesthesiologists who provide outpatient anaesthesia care in a variety of practice settings. The names of panel members were provided to further demonstrate the credibility of the panel and appears with the consent of panel members.

In two iterations, this Delphi panel was able to produce a comprehensive and stable list of elements that, in their collective view, determined a patient’s satisfaction with anaesthesia care (Table 5). Panel members did not distinguish between elements of care that produced patient dissatisfaction or those that produced satisfaction; one was merely the converse of the other. Most elements of care offered by each panelist referred to features or components of anaesthetic care that occurred throughout the peri-operative period of patients (pre-operative, intra-operative and post-operative care). Pre-operative care, for example, was
represented by elements of care such as pre-operative assessment of patients, parking, access to outpatient facilities; intra-operative care by elements such as satisfactory conduct of technical procedures; and post-operative care contained features of care such as the rapid return of normal function or the occurrence of post-operative complications.

The majority of elements of care offered by anaesthetists appeared to be those components or facets of anaesthesia care that patients could meaningfully perceive and judge to be important. In fact, the list included many elements that arguably could only be evaluated using the patient’s perspective (e.g. unhurried care, responsiveness to patient needs, satisfactory discharge instructions, etc.). A content analysis of these elements indicates that to anaesthetists, a patient’s evaluation of the domain of anaesthesia care is divisible into an evaluation of its three distinct temporal phases - pre-operative care, intra-operative care, and post-operative care. In addition, elements of care in each temporal phase align themselves into five dimensions or themes of care - environment of care, technical content of care, interpersonal relationship, efficiency or flow of care, and outcomes of care.

Furthermore, with the exception of “interpersonal care”, the elements of care within each dimension differed according to the temporal phase of care being evaluated and describe the components and characteristics of care specific to that dimension of care. For example, the dimension technical content of care in the pre-operative phase was represented by elements such as conducting a thorough patient assessment, respecting patient autonomy, and correcting and improving patient expectations. The same dimension in the intra-operative phase referred to elements of care such as ensuring patient safety, patient comfort, and the skilful conduct of technical procedures. The dimension, interpersonal relationship
was constant across all phases: not surprisingly, affective characteristics of care - such as compassion, warmth, respect, and kindness, were important attributes of all care and were independent of when (or where) care is given.

Although many elements of care provided by the anaesthetists were simple and clearly articulated (such as “allowing family persons to be present”, or “respecting patient values and preferences”), many of the stated elements of care were complex and contained a number of components or issues. For example, “smoothly handled changes in post-operative hospital course” (within the flow of care dimension in the post-operative phase of care) can encompass the diagnosis and treatment of complications, the communication and provision of information to patients, and the ability to recognize and address the needs of the patient and his/her family during unusual clinical developments. A number of facets of care, therefore, need to be ‘unbundled’ from the term “smoothly handled” to be understood and evaluated by patients.

Moreover, a number of elements of care were phrased in medical jargon which was too technical for patients to comprehend. Elements such as “satisfactory conduct of technical procedures” needs more precise explication of ‘satisfactory’, ‘conduct’, technical’ and ‘procedure’; the meanings of these terms may well be different between patients and anaesthetists.

Finally, a few elements of care represented components of care that patients would want but would require added knowledge to judge. These included the themes ‘thorough and appropriate assessment pre-operatively’, ensuring patient safety by maintaining high practice standards’, and ‘ensuring the safety of anaesthesia equipment’. To be evaluated in the
context of actual patient experiences, these elements of care would require explication of ‘thorough’, ‘standards’ or ‘safety’ into specific criteria upon which patients can base their evaluation.

The generation of elements by anaesthetists therefore yielded a comprehensive list of what patients want in their care. These elements lay within a conceptual multi-dimensional matrix composed of three temporal phases of care and five dimensions within each temporal phase (Table 5). The majority of elements of care were specific to each phase and dimension and were features of care best evaluated utilizing the patient’s unique perspective. However, the wording of many elements as articulated by anaesthetists remained too vague or contained too much jargon to be understood adequately by patients; these elements need to be clarified, explicated into the facets of care they actually represent, and precisely worded in terms that are understandable and meaningful to patients.

B. Elements of Care That Determine Patient Satisfaction According to Patients

i) Description of patients interviewed

Elements and dimensions of care that determined patient satisfaction with outpatient anaesthesia care were derived from open-ended individual telephone interviews with a heterogeneous sample of surgical outpatients (Table 6). All patients had recently undergone outpatient general anesthesia at Sunnybrook Health Science Center (a tertiary care Toronto hospital). Sixty percent of patients were female and their age ranged from 20 to 78 (median = 34). The majority of patients were Caucasian; two patients described themselves of Italian descent, one Chinese, one East Indian, and one Caribbean. A diverse range of occupations
were represented. Most patients (65%) had received education beyond grade 12; 10% had less than grade 12; 25% as equal to grade 12. Finally, the patient sample had undergone outpatient general anaesthesia for a broad range of surgical specialties including ENT, general surgery, orthopedics, plastics surgery, gynecology, and urology. Thus, the sample of patients interviewed mirrored the diversity of patients and procedures that require outpatient anaesthesia care.

ii) Qualitative insights on how patients evaluate their care

Soliciting and recording the experiences of patients using open-ended patient interviews offered a unique opportunity to examine how patients evaluate their care within the context of the experience itself. Each patient’s firsthand description of what happened to him/her was a detailed and complex testament to the care received by patients. This testament indicates that patients, once stimulated to recall their entire episode of care, can render relative positive or negative judgements on specific elements of care even when most of the care appears to them to have been exemplary.

These judgements only emerged upon a detailed exploration of the peri-operative experience that stimulated the recollection of significant events that occurred in their care. All patients, when asked what they thought about their anaesthetic experience, first expressed some uncertainty as to what exactly such a question referred. Most patients began their interview with one of the following comments: they remembered nothing of note, they had specific concerns about anaesthesia pre-operatively, they had a fleeting memory of their anaesthetic induction or emergence, or they suffered a particularly troubling complication or
side effect. Upon subsequent probing about the entire peri-operative experience, considerably more positive or negative incidents in their care were recalled that then fostered a more discriminating opinion of that care.

For example, one patient stated outright that she did not feel she was “a very good candidate” for the study “because every time (she’s) had anaesthetic (sic), it has been very uneventful”. In the recounting of her actual experience, however, she admitted to feeling very apprehensive, lonely, and isolated in the pre-operative phase of her care; feelings that were overwhelming enough to cause her to breakdown and cry as she arrived in the operating room. These feelings had been such a constant feature of all her previous anaesthetics that they had become, to her, an unavoidable and thereby “necessary” part of the anaesthetic experience. This same patient also provided a particularly descriptive and apt metaphor symbolizing this aspect of her pre-operative care; the most comforting and memorable event was when the nurse offered (her) “a warm blanket” while she was waiting outside the operating room. This unexpected comfort was also echoed in other patient accounts and eloquently embodies the desire of many patients that their peri-operative experience be less cold, lonely, and frightening. As exemplified by this patient, important incidents can remain undisclosed because patients do not remember them or patients do not feel they are worthy of mention.

In addition, patients are capable of and frequently harbour contradictory opinions of different parts of their anaesthesia care. Neutral, negative and positive incidents resided together in most patient accounts. Indeed, patients often expressed both positive and negative opinions of the same incident of care. For example, one patient strongly
commended his anaesthetic team for their excellent pre-operative assessment - their detailed attendance to his particular concern (protecting his expensive dental bridgework), the discussion of the risks and anaesthetic choices relevant to that concern (methods to best intubate his airway in order to control and protect airway during the general anaesthetic), and his involvement in the course of action eventually undertaken (an awake fibre-optic intubation). Although this patient was clearly satisfied with the content and thoroughness of his care, he was critical of the efficiency of that same care. He wondered why the discussion of risks and choices was left only until the last minute (i.e. in the operating room), and he also specifically questioned the redundancy in the present system (of pre-operative assessment):

"It seems to me that there was a lot of redundancy. I talked to three people about the anaesthetic .. that should be one person and it should be fully comprehensive. I had several people as I was sitting outside the operating room (to whom I had to) identify I had an adverse reaction to Metronidazole.. That was identified by an orange band around my wrist.. I must have been asked by at least six people the circumstances (of that reaction) .. it was almost like everyone that walked down the hall would ask me about it."

On the other hand, the excessive concern that was shown to him when manifested in other ways clearly left him with an excellent view of his care:

"(the nurses) were very kind and caring.. everybody went out of their way to care for me .. in fact I was astonished at the number of people involved and how much concern and care giving was (given to me) .. As I say I was astonished at the number of people involved for what I presume was minor surgery ... I was surprised and I appreciated it (but) I only wonder if we can afford it."

Even within enthusiastic compliments of care there existed criticisms. Clearly, the care conducted on patients can produce both satisfaction and dissatisfaction depending on what aspect or dimension of that care is being examined.
Finally, patients have differing preferences as to what they would like for certain aspects of their care. The clearest example of this is whether patients wanted to be informed of the serious risks and dangers associated with anaesthesia.

Some patients clearly did not want to know:

“in my opinion, it isn’t really necessary .. when I’m being put out, I leave it up to the anaesthetist to basically look after me ... you’ve got to put yourself in their hands...”

Others wanted to know:

“I want the nitty gritty .. If I have the hard facts, I can weigh it out and say it’s not worth worrying about ...”

Others expressed a desire to know but only in an appropriate fashion:

“I would like somebody to tell me about (risks) ... I think the best way (though) is with a brochure (and not in front of the operating room) .. ”

The extent and thoroughness in which serious risks are discussed did not appear to be important to the patients. What was important was that this discussion be conducted in an appropriate manner to the extent that patients actually want it. Satisfaction with certain elements of care such as informing patients of risks and dangers are strongly influenced by patient preferences on how that care should be best conducted.

iii) Elements and Dimensions of Care Derived From Patients

The comments offered by patients, when combined, depict a complex and fine-grained picture of what patients value in their care (Table 7). Detailed analysis of all patient transcripts yielded 329 comments which described a patient’s experience in positive, negative
or evaluative terms ("you go off nice and easily", "I felt isolated and abandoned", "it (the induction of anaesthesia) was horrible".. etc.). These comments were divided into the dimensions and temporal phases of care to which they referred (Tables 8 and 9). Based on these comments, elements and dimensions of care were derived that spanned the entire peri-operative experience and captured that experience in considerable detail.

The patient-derived framework of major dimensions and phases of care was, except in two minor respects, identical to that derived from anaesthetists. (The minor differences were that comments from patients were grouped into four rather than three temporal phases of care - the post-operative phase of care was divided into a pre-discharge and a post-discharge phase - and in the post-discharge phase of care, there was no physical structure dimension). Within each temporal phase, the same dimensions of care (physical structure, technical content, interpersonal relationship, efficiency of care, and outcomes of care) successfully classified all elements of care.

Patient comments when grouped within each major dimension supported a further division into subdimensions of care. These subdimensions identified and clarified those issues within each major dimension about which patients were particularly concerned. Subdimensions enabled the major dimensions to have more precise definition and greater focus. For example, technical content in pre-operative care was defined by only five subdimensions: thorough patient assessment, attention to patient fears and concerns, timely information, adequate communication, and patient participation.

By incorporating examples of patient comments within each dimension and subdimension, better insight was obtained into what each (sub)dimension actually meant to
patients. The resulting fuller descriptions of each dimension and sub-dimension promoted the construction of items that were directly relevant to and remain grounded in the richness and depth of the actual experience of patients.

A specific example can best illustrate this. To “reassure and instill confidence and trust” in patients was an important subdimension of interpersonal relationship in the pre-operative phase of care. Actual patient comments describe the manner by which anaesthetists achieve this; by accepting that patients “put (themselves) in their hands”, by not undermining patient confidence during critical times (“if as you’re laying in the operating room, someone tells you that there is a chance of not waking up I think I would freak”), and actively “(making patients) feel relaxed .. confident in you” by projecting a calm and knowledgeable presence that “(assures patients) you know exactly what you’re doing”. Thus, the pre-operative ability of anaesthetists to reassure and instill confidence and trust in their patients can be summarised as “the anaesthetist made me feel calm, relaxed, and confident in his/her ability to care for me”, a questionnaire item that has used the patient’s own words to describe that subdimension of care.

The comments obtained from patient interviews, when combined, support a complex and detailed multi-dimensional taxonomy of patient satisfaction (Table 7). The major dimensions within each temporal phase of care of this taxonomy virtually agrees with that derived from anaesthetists. Subdimensions, and the incorporation of actual patient comments to describe them, more precisely define the specific elements of care that determine patient satisfaction in each dimension of care. As a result, items for a questionnaire can be constructed that can adopt the patient’s own words and impressions to probe specific
subdimensions and major dimensions of care within any temporal phase of anaesthesia care.

In essence, the descriptive taxonomy presented in Table 7 provides a high resolution 'map' of the reality of anaesthesia care as it pertains to outpatients and offers items endorsed by those patients through which that reality can be evaluated.

C. Nominal Rankings To Evaluate Patient-derived Elements and Dimensions of Care

i) The Characteristics of Survey Respondents and Nonrespondents

Forty-five patients agreed to participate and were given the mail-back take-home questionnaire. Of these 45 patients, ten patients were recruited from Sunnybrook Health Science Center (SHSC) and 35 from North Bay General Hospital (NBGH). Thirty-two questionnaires were returned (response rate = 71%; 60% from SHSC, 75% from NBGH). Two questionnaires (both from NBGH) were not ranked as per instructions (6.25% rate of spoiled questionnaires). Data from 30 completed questionnaires were used to generate pooled rankings of items in the questionnaire. (Sample sizes were too small to allow separate analysis of data from individual institutions so data from both were combined and analysed together.) Comparisons of respondents and non-respondents failed to identify any consistent differences in age, sex, or procedures although the numbers of patients in all subsets were small (Table 10). (Non-respondents referred to those patients who had consented to participate, receive a questionnaire, but, despite a follow-up phone call, did not return the mailback questionnaire.)

Among respondents, gynaecological surgical procedures (53%) and women (84%)
predominated. The next most frequent category of procedure was orthopaedic (25%). The age of respondents ranged from 16-75 years (median = 31; mean 34). On the basis of a 1995 audit, the case mix, age and sex distributions of the respondents were broadly representative of the surgical outpatient population of the North Bay General Hospital (personal communication from Dept. of Clinical Records- NBGH).

ii) Rank Ordering of Items by Patients

Thirty outpatients were asked to rank the top three items from a group of nine items representing each temporal phase of care. The rank given to each item by all thirty patients was summed together to produce an aggregate score for each item. An overall rank order for items in each temporal phase, based on the aggregate score of each item, reflects the priority of these items based on a consensus opinion of the entire sample of patients. This ranking is presented prior to the raw data for the rankings. This overall rank ordering for each temporal phase of care consistently placed items representing the technical content of care higher in priority than all other dimensions; provision of adequate information and effective communication (subdimensions of technical content) ranked highest in all phases of care.

On the other hand, items within the physical structure of care ranked last or next to last even though the item representing physical structure had been presented first in all lists. The importance of interpersonal dimension, efficiency of care, and outcomes of care depended on the temporal phase. Interpersonal care (confidence and trust in the anaesthesit) was ranked second in the intraoperative phase; efficiency and outcome dimensions were highly ranked in the post-operative phase of care.
iii) **Anaesthetists' Predictions of Patients' Ranked Ordering**

The overall ranked order of items in each temporal phase obtained from anaesthetists correlated well with the corresponding overall ranked order obtained from patients except in the pre-operative phase of care (Table 12). Spearman correlations between patients and anaesthetists were 0.91 (P < 0.001) in the post-discharge phase of care; 0.85 (P = 0.01) in the pre-discharge phase of care; 0.63 (P < 0.09) and in the intra-operative phase of care; and -0.09 (NS) in the pre-operative phase of care. The poor correlation in the pre-operative phase resulted despite the fact that both patients and anaesthetists ranked as their top item “identifying and addressing adequately patient concerns and a desire for information”. Subsequent ranked items diverged between patients and anaesthetists; patients want more detailed information about side effects and discussion about their care, anaesthetists emphasized the importance of friendly and efficient care.

iv) **The Relative Importance of All Items**

The rankings made by individual patients for items in each temporal phase of care exhibited a variability that is not appreciated in the overall rank order of those items. Variability in rankings reflects a lack of complete agreement among respondents and is indicative of the relative importance of all items to patients.

This variability is more apparent when the actual score, based on summed ranks, is listed along with the number of times each item appeared as one of the top three and the number of times it was chosen as the most important item (Table 13). Items of each temporal phase often possessed scores that were minimally different from their closest neighbors. For
example, in all phases of care, the scores of the top items differed from each other by no more than 4 units. The rank order of the topmost items may, as a result, be somewhat arbitrary and unstable.

Furthermore, maximum agreement amongst all thirty patients would have ideally resulted in only three items in each phase of care possessing scores of 90, 60 and 30 with all other items scoring 0, and the same top item and the same top three items would have appeared 30 times in column two and three of Table 13. However, no temporal phase possessed a level of agreement that approached this theoretical maximum. Instead, as seen in column one of Table 13, a spread of scores over all items in each temporal phase suggests substantial disagreement between rankings of patients. Indeed, when examining the second column of Table 13, it is apparent that all items except one were considered important enough to make the top three of at least one respondent. (The only item of the entire 36 that failed to make the top three of any respondent was item 5 in post-discharge care, “the hospital phones me in the first 72 hours to see how I’m doing”.) In each temporal phase, at least five out of the nine items was considered a top item by at least one respondent. This suggests that patients place value on different items within each list; less commonly ranked items may still have substantial value to some patients.
DISCUSSION

This study engaged both patients and anaesthetists in formal consultation processes to derive elements and dimensions of care which determined patient satisfaction with outpatient general anaesthetic care and attempted to identify those elements and dimensions that were most important to patients. Interviews with twenty surgical outpatients yielded a detailed descriptive patient derived taxonomy of elements and dimensions of outpatient anaesthesia care and generally agreed with that derived separately from anaesthetists. The elements and dimensions of care derived from patients, however, possess clearer focus and meaning that will produce items for a questionnaire truer to patients’ actual concerns and needs. Results of this study also suggest that the items more strongly associated with patient satisfaction may not be easily uncovered from judgmental techniques such as nominal ranking.

A recent study by Whitty et al.\textsuperscript{58} used in-patient focus groups to generate these elements of care and formulated them into items for a patient satisfaction questionnaire. They divided patient satisfaction into pre-operative, intra-operative, and post-operative phases of in-patient general anaesthesia care and targeted specific aspects of each temporal phase. Although these investigators were the first anaesthetists to develop items of a questionnaire based directly on the input of patients, they consulted a limited number of patients (<15) and generated a small bank of initial elements of care (directly formulated as a 44 item questionnaire). These may not have completely represented the complex domain of inpatient anaesthesia care. They also did not derive dimensions of care from the elements of care produced, and did not examine the psychometric properties of their instrument when
tested as a tool to audit patient satisfaction. As a result, their study lacked rigorous
qualitative and psychometric methodology that may have discovered all important elements
and dimensions of care to determine patient satisfaction, and that would have better ensured
the reliability and the true validity of their measure.

A. Methodological Justification

The methods used by this study were chosen for particular strengths and advantages
which they offered. Telephone interviews are more convenient, less costly, and more
feasible when compared to other means of interviewing outpatients. The lingering effects of
anaesthesia, and the importance of post-discharge side effects and care, precluded
interviewing outpatients immediately before they were discharged from the hospital. Issues
of patient privacy and the problems of contacting patients who disperse widely, and resume
work soon after their surgery, make face to face home interviews logistically unappealing.
Focus groups, as an alternate method of obtaining the opinion of patients, would face similar
logistical difficulties of recruiting and convening a group of surgical outpatients who, unlike
outpatients in ambulatory primary care settings, are not required to return for follow-up and
rapidly resume busy lifestyles. Finally, pre-study interviews on four surgical outpatients (in
North Bay) could not detect a difference in the quality of information received between face
to face interviews conducted at the home of patients, and telephone interviews.

The strengths of the Delphi method of questionnaire iterations are anonymity of
responses, structured feedback, and minimal group interaction. These characteristics
equalize the contribution of all panel members and promote the rapid convergence of the
panel towards a consensus taxonomy of elements and dimensions of care. Anonymity of responses prevents dominant personalities or anaesthetists with academic stature from swaying group opinion. Structured feedback accompanying each questionnaire iteration was a particularly important avenue by which the views of patients could be introduced to anaesthetists. Minimizing group interaction by requiring all responses be filtered through a central moderator made the panel efficient and more able to remain focused on a central task.

The Delphi panel method has other noted benefits. It can formally assess the degree of agreement and disagreement between the panel during iterations, an assessment not possible with other consensus methods. In this study, analysis of each questionnaire iteration formally qualified the panel's position at discrete stages of the consultation process. Convergence of panel opinion was demonstrated during the generation of elements and dimensions in the first, second, and third iterations - the emerging taxonomy ceased to elicit revisions from the panel after the second iteration.

Furthermore, the Delphi method avoids group conformity as a means of establishing consensus opinion. For example, in the modified Delphi technique that has been used widely to determine medical appropriateness of diagnostic and surgical procedures (such as coronary angiography or carotid endarterectomy), panel members give a numerical rating of appropriateness of the given procedure in a number of clinical scenarios and the panel is then convened for a face to face discussion to present and discuss their initial ratings immediately prior to a final rating. The group is not required to endorse a common consensus opinion. The consensus instead emerges from results of individual ratings. The requirement that members of the group conform to a common position has been a major criticism of other
consensus techniques. This is because the technique requires a majority of members to agree and thus promotes, to an uncertain extent, agreement based on the "lowest common denominator".  

Finally, the Delphi method can recruit a panel separated geographically at low cost. The representativeness of the panel is critical to all group techniques. The ability of this study to poll anaesthetists from across Canada, the U.S. and as far as Great Britain, including experts in outcomes research and ambulatory anaesthesia, and both academic and non-academic anaesthetists from a variety of practice settings, makes it likely that the final list of elements and dimensions was able to capture the views of most anaesthetists and anesthesiologists. It is likely that most anaesthesia practices and protocols are represented.

B. Study Findings

There were three categories of findings produced by this study. First, information obtained from anaesthetists and patients yielded separately derived comprehensive lists of the elements and dimensions of outpatient anaesthesia care that determined patient satisfaction. Second, the results of the nominal ranking survey evaluated the relative priority of items within each temporal phase. Finally, patient interviews yielded important qualitative insights into how patients evaluate their anaesthesia care.

i) Deriving The Elements and Dimensions of Care That Determine Patient Satisfaction With Outpatient Anaesthesia Care

Separately conducted content analysis of the responses of anaesthetists produced two
comprehensive lists of elements of anaesthesia care, each organized within a similar multi-dimensional taxonomy (Tables 5 and 7). Most elements of care in the list offered by anaesthetists had similar counterparts in the list of patients. This suggests that anaesthetists are sensitive to many of the needs and concerns of their patients. For example, both patients and anaesthetists stated that family members be allowed to keep patients company during pre-operative waiting time, that care be conducted in a kind and gentle manner, that the care should not be conducted in an assembly line fashion, and that patients pre-operative concerns and fears were met.

Coincidentally, both lists of elements of care could also be divided into the five major dimensions of care (environment or physical structure, technical content, interpersonal or affective qualities of the providers of care, efficiency of care, and the outcomes of care) within temporal phases of care (pre-operative, intra-operative and post-operative). For patients, the post-operative phase could also be separated into a pre-discharge and post-discharge or home phase of care. The dimensional matrix present in both taxonomies represents a common conceptual framework by which patients and anaesthetists view the care that produces patient satisfaction. It resembles the more complex matrix derived for the PJHQ in hospital care in which rigorous content analysis of patient and provider comments produced a matrix of physical phase/services of care and attributes of care within those services/phases.\textsuperscript{13}

However, although the taxonomies of patients and anaesthetists shared common elements of care, and were classified within the same dimensional structure, there were important differences. The elements of care listed by anaesthetists reflected the anaesthetist's
more technical perception of their domain of care (e.g. satisfactory conduct of technical procedures, avoid major complications, etc.). The wording of elements of care by anaesthetists was, as a result, often too general, imprecise, and full of jargon to be readily understood by patients.

On the other hand, the comments of patients yielded more completely described elements of care that produced a focused, finer-grained picture of anaesthesia care. The patient-derived taxonomy was able to frame each dimension, subdimension, or individual element of care within the context of actual comments made by patients. This context focused descriptions of elements and dimensions of care onto what actually concerned patients and often allowed the more important facets of complex dimensions of care to be seen and captured within subdimensions of care. The focus favored by patients was often unrecognized in the elements of care derived from anaesthetists. For example, comments made in patient interviews indicated that post-operative outcomes of care made patients dissatisfied primarily when they are unexpected or unexplained. The emphasis patients placed on these aspects of post-operative outcomes was clearly evident in their descriptions of these outcomes. However these aspects remained entirely undetected in the post-operative outcomes offered by anaesthetists (who emphasized instead the type and severity of outcome—vomiting, pain, etc.). In short, the elements and dimensions of care derived from patients are more clearly described, better focused, and truer to the actual concerns, needs, and preferences of patients.
ii) The Relative Priority of Elements and Dimensions of Care

Nominal ranking has known advantages as a method of evaluating the relative importance of items. Rankings rather than ratings of items efficiently sort items according to actual group preferences. Ranked responses forces each respondent to actually choose one item over others rather than allow respondents to merely acknowledge all items as very important. This difference became readily apparent in pre-tests conducted on patients and anaesthetists.

This study used nominal rankings (from a mail-back questionnaire) as one means of determining the relative priority of items within each temporal phase of anaesthesia care by patients and the ability of anaesthetists to predict these priorities. The ranked order of importance of elements of care within each temporal phase of care offered a number of preliminary insights into the relative priority patients place on different aspects of their care, and the ability of anaesthetists to predict that priority.

When asked to rank a list of items in terms of their importance to their future care, patients do not consistently favour certain dimensions or elements. In pre-operative care, patients place the most weight on whether their concerns are identified and addressed; in the operative phase of care, patients prefer being spoken and attended to; and in both post-operative phases of care, they most value being adequately provided with information about complications of surgery and anaesthesia (if any) and post-discharge care (Table 11). In all phases of care conducted in hospital, patients placed the least weight on the physical environment of their care.
Anaesthetists were able to predict the rank order of the items well in the pre-discharge and post-discharge phases of care ($r = 0.85$ and $0.91$ respectively) but were less able to do so in the operative ($r = 0.63$) and especially in the pre-operative phase of care ($r = -0.09$) (Table 12). This may be due to the focus and emphasis that anaesthetists place on the smooth post-operative recovery of their patients, and, as a consequence, an increased awareness of what patient priorities are in this phase of care.

However, the pooled ranked order obtained from nominal rankings must be interpreted with considerable caution. It is evident from an examination of the distribution of individual rankings (Table 13) that eight or more items in most temporal phases was listed as one of the top three and five or more items was considered the top item by at least one patient. This suggests that the differences in the importance between items on each list is actually small. Using ranked order alone then to eliminate lower ranked items may in fact discard items that are of considerable importance to a significant number of patients. As a final caveat, the nine items ranked in each phase of care were arbitrarily selected from a larger set of such items and the rank of each item (and the anaesthetist's ability of predict that rank) may change if placed with a different group of items.

What then do the rankings of this study really show? The spread of items that were top-ranked and the fact that no item clearly dominates each phase of care suggests that the important items of each temporal phase of care may not be judgementally reducible to one or two key items. Furthermore, since physical structure items were consistently unranked, items representing physical structure are of less consequence to patients. Anaesthetists appear better able to predict the importance of items in the post-operative phases of care but are
much poorer in the pre-operative phase of care. Finally, nominal ranking techniques have significant limitations when used as a means to establish the priority of items. The relative importance of the elements of care listed in the patient-derived taxonomy may be best demonstrated, not through the use of judgemental techniques such as nominal ranking, but through the use of psychometric techniques to evaluate these items during pilot testing of a large multi-item questionnaire.

iii) Qualitative Insights Into How Patients Evaluate Their Care

Interviews with individual patients, planned solely as a means of generating the elements of care responsible for patient satisfaction, nonetheless provided important qualitative insights into how patients evaluate their anaesthesia care.

First, in all interviews, questions which asked patients for a few general comments about their care or to make a global evaluation about their anaesthesia care was of limited value. Most patients clearly did not know how to proceed or about what they should base their comments. Many answered global-type of question with quick responses (“everything went fine”); these responses overlooked subsequently detected negative incidents in their care.

Second, when questioned about specific phases or features of their care, patients can recall in considerable detail, and can rate one aspect of the same incident of care (e.g. thoroughness of pre-op assessment) differently and independently of its other aspects (e.g. the efficiency of pre-op assessment). The fact that positive and negative impressions of care can be solicited from the same patient indicates that a patient’s positive impression of one
aspect of their experience does not necessarily induce the same positive impression on all other aspects of care (i.e. in patient descriptions of their care, there is no halo effect).

Finally, the different preferences of patients about certain elements of care must be clarified if these elements of care are to be used to evaluate a patient's overall care. This clarification must identify the real issues within elements of care. As one example, a thorough and extensive discussion of the risks and dangers of anaesthesia is in fact not what all outpatients want; rather, all patients preferred that they be informed of dangers and risks to the extent that they really want that information and in a manner that they themselves could control (for example, as a brochure well before surgery).

The discrepancy between the initial statements patients made about their anaesthetic experience and the incidents that they were able to recall, the ability of patients to discern and evaluate independently different facets of the same element of care, and the importance of clarifying patient preferences on what they actually want in their care, provide valuable clues on how a valid measure of patient satisfaction should be constructed. Simple global ratings, or simple counts of adverse events, may fail to reflect the many details and nuances of care which patients consider important in their care. As a result, these may be inadequate measures of satisfaction. A better measure could take advantage of the capacity of patients to render detailed evaluations by using carefully constructed closed ended items to target important elements of anaesthesia care. A psychometric questionnaire, comprised of the items and dimensions derived in this study, could target these elements of care and allow patients to render better judgements which truly reflect the overall quality of their care.
C. **Study Limitations**

The limitations of this study, which used a qualitative approach to derive a comprehensive list of the elements and dimensions of care, pertain to validity (were all pertinent elements obtained and do they reflect all issues of importance to patients?). reliability (are these results reproducible?), and generalizability (to which patients are these results applicable?).

Although it remains impossible to be entirely sure that all important elements of care were revealed by the experiences of 20 patients, the following reasons suggest that the study did indeed capture most elements and dimensions. First, the number of patient interviews was deemed adequate only when the three successive interviews had revealed no further new elements or dimensions of care. Second, the actual patients interviewed mirrored the variety of patients and case-mix found in outpatient anaesthesia practice. Third, patient comments produced a detailed extensive taxonomy of dimensions that spanned all phases of anaesthetic care. Finally, the diversity of elements of care derived directly from patients matched if not exceeded those elements separately generated by the panel of expert anaesthetists.

To ensure the reliability and validity of qualitative results, it would have been ideal to utilize more than one analyst during the content analysis of the responses of patients and anaesthetists and to include an 'unbiased' interviewer and analyst who was not an anaesthetist. However, employing several analysts or extensively training an interviewer/analyst who did not have any prior knowledge of anaesthesia care was beyond the study's limited resources. The reliability of content analysis is suggested by the fact that similar taxonomies emerged from the sequential content analysis conducted one at a time on
each individual's responses and the separate content analysis performed on the pooled responses of all individuals. In future, further demonstration of the reliability of the final step in content analysis, that is, classifying elements of care into patient-derived dimensions, could be obtained by using one or more additional analysts unfamiliar with the original taxonomy. This would verify if the elements of care identified in the study could be reproducibly classified into the same or similar dimensions of care.

Patient-derived elements of care were formulated from the evaluative comments or comments that contained positive/negative connotations during patient descriptions of their anaesthesia experience or care. It was felt that these types of responses were a result of a patient's cognitive and emotional evaluation of some element of their health care - the two psychological processes that, in Pascoe's theoretical conceptualization, together produce a patient's satisfaction with their care. That the elements of care referred to by these responses actually determined a patient's satisfaction with their care was supported by patient responses to more specific questions at the end of the interview. Elements of care identified in evaluative or affective comments were confirmed in specific questions that asked patients for what they thought were the most important components of their future anaesthesia care and the most important components of upcoming anaesthesia care on friends or relatives.

Further indications of the validity of the elements and dimensions derived by this study - that they truly determined a patient's satisfaction with their care - were found in the ratings of items during pre-tests and actual nominal rankings of items by anaesthetists and patients. Most items were chosen as one of the top three of at least one respondent and the rating of items using Likert response formats found most items as important or very
important. However, while the above findings suggest that these items are important to patients, more definitive evidence of their correlations with patient satisfaction will occur during psychometric evaluation of each of these items in pilot testing.

To a large extent, confidence in the completeness, reliability and validity of the results obtained by this study rests on the rigor by which data collection was conducted, analytic techniques applied, and data recorded and reported. In all phases of the study, data collection was divided into reproducible steps that were easy to follow; the data obtained in each step was transcribed, tabulated, and analyzed in a detailed and timely fashion; and the entire evolving data set was meticulously preserved. Careful and extensive documentation throughout the study allows a step by step reconstruction of the path by which study results were obtained. The ability to re-examine in detail the route by which study results were obtained is an important means by which qualitative studies help ensure the reproducibility and internal validity of their conclusions. As with all qualitative studies, these conclusions await confirmation by other investigators.

Finally, it is important to emphasize that the elements and dimensions of care obtained by this study are specific to outpatient anaesthesia care. While some of the elements of care can be applied to inpatients (e.g. being told what to expect, instill confidence and trust when a patient is in the operating room, etc.), many of these elements of care would not apply the same way to inpatient anaesthesia care. For example, the extent and completeness that risks are discussed with patients, while perhaps not as important to outpatients for whom those risks are rare, may well be very important to inpatients undergoing high risk procedures such as cardiac surgery. Inpatient anaesthesia care also possesses a number of elements of
care not present in outpatient anaesthesia care - e.g. being offered more elaborate options of post-operative pain management. The elements of care derived in this study also have unknown validity to patients who do not speak English, are of different cultural backgrounds, or who are undergoing outpatient procedures that do not require general anaesthesia (i.e. under local anaesthesia or with sedation alone).

D. Future Directions

The results of this study prompts three separate avenues of future research. First, the comprehensive bank of patient-derived elements and dimensions of care which determine patient satisfaction produced by this study constitutes the first step in the development of a standardized psychometric multi-item questionnaire. The difficulties described in this study of judgementally reducing items suggests that reduction of the many elements of care in each phase of anaesthesia care to those elements of care most relevant to a patient's satisfaction may require psychometric item reduction techniques. These techniques could be applied during pilot trials to test an extensive questionnaire of 50 or more items on a large sample size of 300 or more patients. By choosing only those items that optimize the psychometric properties of the final measure, a more feasible questionnaire containing fewer items and known reliability and validity could be constructed. Items best representing dimensions of care can be statistically selected using techniques of factor analysis and multi-trait testing. The psychometric path that reduced a 50 item questionnaire to a 20 item one, and a complex dimensional matrix to seven major dimensions, is well documented by the investigators that constructed the PJHQ.\textsuperscript{13,66}
Second, the conceptual framework derived in this study constitutes the beginning of a more formal understanding of patient satisfaction. Further studies, both qualitative and psychometric, on specific temporal phases of care can help further confirm the conceptual dimensions of this study, and direct the development of measures of patient satisfaction focused on a few specific dimensions within these temporal phases of care. In addition, future satisfaction surveys that employ multivariate analytic techniques to examine the significance of derived dimensions as predictors of overall patient satisfaction can clarify the relationship between each of these dimensions and phases of care to overall patient satisfaction. These relationships can be used to direct quality efforts in anaesthesia onto those dimensions of anaesthesia care that have most impact on the satisfaction of patients.

Finally, this study used qualitative methodology and this alone has broader implications for anaesthesia outcome research. Formally seeking the input of key informants for a better understanding and definition of outcomes prior to quantitative measurements of that outcome is uncommon in anaesthesia research. As indicated by this study, examining outcomes from within the actual context of patient experiences can shift the focus of researchers onto those outcomes of true importance to patients. This could indicate the specific aspects of those outcomes which patients feel should be emphasized.

E. Conclusions

In conclusion, comprehensive lists of the elements and dimensions of outpatient anaesthesia care which determine patient satisfaction with that care were obtained from patients and anaesthetists. These lists can serve as a source of valid items for a standardized
multi-item patient satisfaction questionnaire. From both patients and anaesthetists a dimensional matrix of care emerged which can be used to evaluate patient satisfaction; one that divides anaesthesia care into four temporal phases (pre-operative, intra-operative, pre-discharge, and post-discharge care) and five major dimensions or attributes of that care within each temporal phase (physical structure, technical content, interpersonal care, efficiency of care, and outcomes of care). The patient-derived taxonomy contain elements and dimensions of anaesthesia care described with greater clarity and focus, and will offer better questionnaire items that use the actual words and phrases of patients. Incorporating qualitative methodology into the field of anaesthesia research may lead to improved definitions of outcome variables (such as vomiting, pain, etc.) which have greater relevance to the needs and concerns of patients.
REFERENCES
REFERENCES


TABLES
Table 1: Dimensions of the PJHQ (hospital care)\textsuperscript{13} and the PSQ (ambulatory care)\textsuperscript{12}

<table>
<thead>
<tr>
<th>PJHQ</th>
<th>PSQ</th>
</tr>
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<tbody>
<tr>
<td>Nursing daily care</td>
<td>Technical care/ medical outcomes</td>
</tr>
<tr>
<td>Hospital environment</td>
<td>Interpersonal behaviour</td>
</tr>
<tr>
<td>Medical care</td>
<td>Access</td>
</tr>
<tr>
<td>Information</td>
<td>Availability</td>
</tr>
<tr>
<td>Admissions</td>
<td>Continuity of care</td>
</tr>
<tr>
<td>Discharge processes</td>
<td>Convenience</td>
</tr>
<tr>
<td>Finances</td>
<td>Environment</td>
</tr>
<tr>
<td></td>
<td>Finance</td>
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Table 2: Patient knowledge of anaesthesia based on patient surveys \(^{31,45-48}\)

<table>
<thead>
<tr>
<th>Patient knowledge of anaesthetist's</th>
<th>Proportion of patient perceptions that were accurate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profession</td>
<td>33 - 81%</td>
</tr>
<tr>
<td>Intra-operative functions</td>
<td>70 - 92%</td>
</tr>
<tr>
<td>Capabilities</td>
<td>48 - 75%</td>
</tr>
<tr>
<td>Functions outside OR</td>
<td>25 - 40%</td>
</tr>
</tbody>
</table>
Table 3: Patient perceptions of anaesthesia based on three decades of patient surveys \cite{9,11,30,32,36,37,39,43,49,50}

<table>
<thead>
<tr>
<th>Pre-op &quot;concerns&quot;</th>
<th>Intra-op and Post-op &quot;events&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>not waking up</td>
<td>nausea and vomiting</td>
</tr>
<tr>
<td>injections/needles</td>
<td>sore throat</td>
</tr>
<tr>
<td>nausea</td>
<td>muscle aches</td>
</tr>
<tr>
<td>intra-op/post-op pain</td>
<td>head aches</td>
</tr>
<tr>
<td>fear of the unknown awareness</td>
<td>pain or bruising at IV site</td>
</tr>
<tr>
<td>losing control</td>
<td>pain</td>
</tr>
<tr>
<td>embarrassing disclosures</td>
<td>drowsiness</td>
</tr>
<tr>
<td>anxiety</td>
<td>inadequate information</td>
</tr>
<tr>
<td>unable to function after breathing gas</td>
<td>shivering</td>
</tr>
<tr>
<td>seeing operating instruments</td>
<td>cold</td>
</tr>
<tr>
<td>broken teeth</td>
<td>visual disturbances</td>
</tr>
<tr>
<td>complications</td>
<td>speech difficulties</td>
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<td></td>
<td>backache</td>
</tr>
<tr>
<td></td>
<td>awareness</td>
</tr>
<tr>
<td></td>
<td>paralysis</td>
</tr>
<tr>
<td></td>
<td>dizziness</td>
</tr>
<tr>
<td></td>
<td>extubation</td>
</tr>
<tr>
<td></td>
<td>tiredness</td>
</tr>
<tr>
<td></td>
<td>memory/mental impairment</td>
</tr>
<tr>
<td></td>
<td>emotional/mood alteration</td>
</tr>
<tr>
<td></td>
<td>micturition problems</td>
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Table 4: The Delphi Panel

<table>
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<tr>
<th>Name</th>
<th>Sex</th>
<th>Age</th>
<th>Years of Practice</th>
<th>Type of Practice</th>
<th>Country of Practice</th>
<th>Current Department Head (y/n)</th>
</tr>
</thead>
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<tr>
<td>D. Bevan</td>
<td>M</td>
<td>55</td>
<td>27</td>
<td>Academic</td>
<td>Canada</td>
<td>y</td>
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<td>M. Bogetz</td>
<td>M</td>
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<td>14</td>
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<td>U.S.A.</td>
<td>n</td>
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<tr>
<td>F. Chung</td>
<td>F</td>
<td></td>
<td>20</td>
<td>A</td>
<td>Canada</td>
<td>y</td>
</tr>
<tr>
<td>D. Craig</td>
<td>M</td>
<td>55</td>
<td>25</td>
<td>A</td>
<td>Canada</td>
<td>y</td>
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<td>M</td>
<td>51</td>
<td>25</td>
<td>Community</td>
<td>Canada</td>
<td>y</td>
</tr>
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<td>Canada</td>
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<td>P. Duncan</td>
<td>M</td>
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<td>20</td>
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<td>Canada</td>
<td>y</td>
</tr>
<tr>
<td>C. Eagle</td>
<td>M</td>
<td>44</td>
<td>15</td>
<td>A</td>
<td>Canada</td>
<td>y</td>
</tr>
<tr>
<td>F. King</td>
<td>M</td>
<td>45</td>
<td>15</td>
<td>A</td>
<td>Canada</td>
<td>y</td>
</tr>
<tr>
<td>J. Lunn</td>
<td>M</td>
<td>62</td>
<td>40</td>
<td>A</td>
<td>U.K.</td>
<td>n</td>
</tr>
<tr>
<td>F. Orkin</td>
<td>M</td>
<td>53</td>
<td>25</td>
<td>A</td>
<td>U.S.A.</td>
<td>y</td>
</tr>
<tr>
<td>D.K. Rose</td>
<td>M</td>
<td>48</td>
<td>16</td>
<td>A</td>
<td>Canada</td>
<td>y</td>
</tr>
<tr>
<td>M. Sullivan</td>
<td>M</td>
<td>36</td>
<td>4</td>
<td>C</td>
<td>Canada</td>
<td>n</td>
</tr>
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<td>R. Twersky</td>
<td>F</td>
<td></td>
<td>10</td>
<td>A</td>
<td>U.S.A.</td>
<td>y</td>
</tr>
<tr>
<td>D. Yee</td>
<td>F</td>
<td>37</td>
<td>10</td>
<td>A</td>
<td>Canada</td>
<td>n</td>
</tr>
</tbody>
</table>
Table 5: The revised taxonomy of patient satisfaction derived from anaesthetists over two Delphi iterations (revisions in italics)

<table>
<thead>
<tr>
<th>ATTRIBUTE OF CARE</th>
<th>PRE-OP PHASE OF CARE</th>
<th>INTRA-OP PHASE OF CARE</th>
<th>POST-OP PHASE OF CARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVIRONMENT OF CARE (&quot;the physical plant in which care occurs&quot;)</td>
<td>&quot;Pleasant surroundings&quot;. Access and convenience of outpatient facility: convenient and appropriate pre-op lab testing; pre-anaesthetic clinic; parking; comfort and accessibility of pre-op admission and waiting area. Allowing family or support persons to be present.</td>
<td>Accessibility and comfort of pre-OR area, operating room, and PAC (&quot;OR layout&quot;). Adequacy of patient privacy. Allowing family to be present (pediatrics). Safety of anesthesia equipment.</td>
<td>Accessibility and availability of patient care areas. Accessibility and availability of follow-up mechanisms. Ease of discharge. Involvement of family.</td>
</tr>
<tr>
<td>ATTRIBUTE OF CARE</td>
<td>PRE-OP PHASE OF CARE</td>
<td>INTRA-OP PHASE OF CARE</td>
<td>POST-OP PHASE OF CARE</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------------</td>
<td>------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td></td>
<td>Minimize and explain complications.</td>
<td>Coordinated (“harmonious”) staff interactions.</td>
<td></td>
</tr>
<tr>
<td>AFFECT OF CARE</td>
<td>Personalized care: (“not a number” or “on an assembly line”); rapport; compassionate: “caring”, considerate, thoughtful, gentle, kind, friendly, warm, professional, efficient, respectful, attentive, confidential, careful, and supportive.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(“the manner by which care was conducted”)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(“results of care”)</td>
<td></td>
<td></td>
<td></td>
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</table>
Table 6: Demographic characteristics of interviewed patients

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>MARITAL STATUS</th>
<th>RACE</th>
<th>OCCUPATION</th>
<th>EDUCATION</th>
<th>OPERATION</th>
<th>MEDICAL ILLNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>61</td>
<td>f</td>
<td>married</td>
<td>White</td>
<td>nurse (ret.)</td>
<td>&gt;12</td>
<td>panendoscopy</td>
<td>?</td>
</tr>
<tr>
<td>75</td>
<td>f</td>
<td>widow</td>
<td>&quot;</td>
<td>legal receptionist (ret.)</td>
<td>=12</td>
<td>hardware removal</td>
<td>?</td>
</tr>
<tr>
<td>75</td>
<td>f</td>
<td>married</td>
<td>&quot;</td>
<td>retired</td>
<td>=12</td>
<td>biopsy neck</td>
<td>?</td>
</tr>
<tr>
<td>38</td>
<td>f</td>
<td>single</td>
<td>&quot;</td>
<td>lab tech (hospital)</td>
<td>&gt;12</td>
<td>panendoscopy</td>
<td>CAD</td>
</tr>
<tr>
<td>58</td>
<td>f</td>
<td>separated</td>
<td>&quot;</td>
<td>nurse</td>
<td>&gt;12</td>
<td>biopsy axilla</td>
<td>no</td>
</tr>
<tr>
<td>40</td>
<td>m</td>
<td>married</td>
<td>&quot; (Italian)</td>
<td>manager</td>
<td>&gt;12</td>
<td>tympanoplasty</td>
<td>no</td>
</tr>
<tr>
<td>35</td>
<td>f</td>
<td>married</td>
<td>Chinese</td>
<td>accountant</td>
<td>&gt;12</td>
<td>TURBT</td>
<td>previous brain abscess, eye problems</td>
</tr>
<tr>
<td>78</td>
<td>m</td>
<td>married</td>
<td>White</td>
<td>machinist</td>
<td>=12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>m</td>
<td>married</td>
<td>&quot;</td>
<td>sales and marketing</td>
<td>&gt;12</td>
<td>septoplasty</td>
<td>no</td>
</tr>
<tr>
<td>20</td>
<td>m</td>
<td>single</td>
<td>&quot;</td>
<td>student</td>
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<td>lap. vesiculectomy</td>
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<tr>
<td>51</td>
<td>f</td>
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<td>&quot;</td>
<td>sales manager</td>
<td>&gt;12</td>
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<td>21</td>
<td>m</td>
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<td>&quot;</td>
<td>machinist</td>
<td>=12</td>
<td>tissue expander</td>
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<tr>
<td>37</td>
<td>f</td>
<td>married</td>
<td>East Indian</td>
<td>secretary</td>
<td>&gt;12</td>
<td>tympanoplasty</td>
<td>NIDDM</td>
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<tr>
<td>43</td>
<td>m</td>
<td>divorced</td>
<td>Caribbean black</td>
<td>unemployed</td>
<td>&lt;12</td>
<td>removal of bullets</td>
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</tr>
<tr>
<td>33</td>
<td>f</td>
<td>married</td>
<td>Chinese</td>
<td>financial analyst</td>
<td>&gt;12</td>
<td>laparoscopy</td>
<td>no</td>
</tr>
<tr>
<td>25</td>
<td>f</td>
<td>single</td>
<td>White (Italian)</td>
<td>receptionist</td>
<td>&gt;12</td>
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<td>no</td>
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<tr>
<td>66</td>
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<td>lap. chole.</td>
<td>CAD</td>
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<td>23</td>
<td>f</td>
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<td>&quot;</td>
<td>teacher</td>
<td>&gt;12</td>
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<tr>
<td>37</td>
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<td>&quot;</td>
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<td>no</td>
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</tr>
<tr>
<td>43</td>
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### Table 6 (continued)

**BREAKDOWN OF DEMOGRAPHICS:**

**AGE**

<table>
<thead>
<tr>
<th>&lt;30</th>
<th>31-50</th>
<th>51-70</th>
<th>&gt;70</th>
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<tbody>
<tr>
<td>4</td>
<td>8</td>
<td>5</td>
<td>3</td>
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</tbody>
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**SEX**

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<thead>
<tr>
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<th>female</th>
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</thead>
<tbody>
<tr>
<td>8</td>
<td>12</td>
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**MARITAL STATUS**

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<tr>
<th>married</th>
<th>single</th>
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<th>divorced/separated</th>
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<tbody>
<tr>
<td>12</td>
<td>5</td>
<td>1</td>
<td>2</td>
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**RACE**

<table>
<thead>
<tr>
<th>white</th>
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<th>black</th>
<th>east indian</th>
</tr>
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<tbody>
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**EDUCATION**

<table>
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<tr>
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<th>= grade 12</th>
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<tr>
<td>2</td>
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**PROCEDURES**

<table>
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<th>GEN.SURG.</th>
<th>ORTHO.</th>
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<td>4</td>
<td>3</td>
<td>1</td>
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</tbody>
</table>
Table 7: A descriptive taxonomy of determinants of patient satisfaction with outpatient anesthesia care derived from patient interviews

I. PRE-OPERATING ROOM CARE

Ia. Physical Structure

1. Patient-friendly pre-admission route

- “I had to go to some other floor. I landed on the (wrong) floor. I started to cry. I was disoriented. the elevators weren’t working. I got a little frustrated.”
- “it would have been more convenient if I could have seen the doctor the same place as I had the interview in the outpatient ward. in one central spot.”

2. Comfort, convenience, and accessibility of outpatient admission ward

- “not rushed. it was very comfortable.”
- “they put me on a stretcher and I waited there for two hours... there was a tremendous delay.”

Ib. Technical Content

1. Thorough patient assessment and evaluation

- “My questions were answered. he did a good job of reviewing things. making sure .. of my medical conditions. looked at my forms. and really read up on where I stood.”
- “I was well prepared.”
- “the anaesthetist went over what he was going to do ..”
- “I had a really bad cold .. I was concerned about that. he asked me how my lungs were working.”
- “it was incumbent upon me to identify the situation and raise the circumstances..”
Table 7 (continued)

Ib. Technical Content (continued)

2. Adequate attention to patient fears and concerns

- general fears
- anxieties based on previous experiences
- specific concerns or desires
- received unexpected benefits, advice, or help

- "the only real fears I had was that I would be nauseous."
- "my major concern is the danger I understand is always present..(but) I'm not sure it can help (by telling patients about it)"
- "the last time I was booked at 930 and they didn't take me to the OR until 400.. it was a horrible day."
- "he was able to relax you before you go in .."
- "I always have a concern about my allergy to penicillin."
- "teeth that is fully crowned."
- "something that really relaxed me was a warm blanket."

3. Provide information that is accurate and timely

- discussion and explanation of care to follow / prepared for peri-operative course
- divulge risks and dangers if desired by patient
- discuss potential side effects
- keep patient informed and attended to during delays and cancellations
Table 7 (continued)

Ib. Technical Content (continued)

- "(it's important) to know choices.. knowing the choice and knowing the options going into each choice was important to me."

- "the anaesthetist doctor was just wonderful.. explained it all through it all what he was going to do... no one had done that before."

- "if they’re going to use a general anaesthetic they should tell you what the potential side effects might be..(if) there is a remote possibility of a significant reaction I’d like to know that there is chance of it to happen."

- "(explanation of side effects) isn’t really necessary.. based on individuals.. some people are more interested in hearing about it.. when I’m being put out O leave it up to the anaesthetist to look after me."

- "the last time I was booked at 930 and they didn’t take me into the OR until 400.. it was a horrible day.. nothing to eat and drink. should have started an IV.. I was really dry .. and really scared.. no one told me it was going to be 400."

4. Foster and promote patient communication

- "personal contact would have been much better.. that I talked to (the anaesthetist) was enough for me."

- "if (patients) have concerns they’re worrying about.. give them the opportunity (and allow them to) choose not to (talk about their concerns)."

5. Patient participation and involvement in care

- "the thing I valued most was the discussion I had with the doctor in charge which discussed alternatives... I appreciated (participating in the decision).. that’s the thing that stands out.. that there were alternatives and that they were discussed with me."
Table 7 (continued)

Ic. Interpersonal Relationship

1. Relax and place patient at ease

   - "he has to be able to relax you before you go in... you get a little nervous... it’s important for (the anaesthetist) to come over and put you at ease..."

   - "(I liked) the reassurance beforehand... the touch of making feel warm (by offering me a blanket)..."

2. Reassure and instill confidence and trust

   - "if (as) you’re laying in the operating room, and someone tells you that there is a chance of not waking up I think I would freak..."

   - "I’m resigned to anaesthetics... you put yourself in their hands..."

   - "the anaesthetist needs a general knowledge of what’s going on... need to make them feel relaxed... confident in you... that you know exactly what you’re doing..."

3. Be helpful and supportive

   - "everybody was very helpful... supportive..."

   - "they were efficient, friendly, concerned about my state of mind..."

4. Respect patient privacy

   - "they whip those gowns off... that’s the most embarrassing part..."

5. Allow family to participate in care

   - "(I asked if) someone (could) go tell me parents that I hadn’t even gone in yet cause they were expecting me to be out by now..."
Table 7 (continued)

Id. Efficiency of Care

- speed
- orderliness
- smoothness
- lack of redundancy
- continuity and coordination of care
- smoothly handled changes in hospital course

- “I was impressed at the speed I was in and out..”
- “went like clockwork.. I was checked in at 900 and lying on the OR table at 1000..”
- “this time it went smoothly”
- “there was a lot of redundancy.. I talked to three people about my anaesthetic.. there should have been only one person and it should have been comprehensive..I must have been asked six different times (about my allergy).”
- “I was booked at 930.. didn’t take me to the OR until 400.. a horrible day... nothing to eat and drink.. I was really dry.. scared.. if I had known it was going to be that long they should even had postponed (the operation).”

Ie. Outcomes of Care

1. Pre-operative fears and anxieties

- previous bad experiences
- specific phobias and fears
- general fears, anxieties and apprehensions
Table 7 (continued)

Ie. Outcomes of Care (continued)

- "while you’re waiting to go in, you’re quite anxious."
- "I was scared about getting over the anaesthetic.. some people never get over their anaesthetic."
- "I knew I would be out.. But eventually I was still scared."
- "I was worried about being smothered (by a mask)."
- "I was frightened with the idea of being helpless."
- "I was more frightened of the anaesthetic than the surgery."
- "I’ve been under a few times so I knew what to expect."
- "I wasn’t particularly concerned because I’ve had anaesthetics before."

2. Occurrence of unpleasant experiences

- IV’s, delays, dehydrated or hungry
  - "My stomach was churning."
  - "I was really dry."
  - "You’re so dehydrated before."
Table 7 (continued)

II. OPERATING ROOM CARE

IIa. Physical Structure

1. Strange, unfamiliar and intimidating

   • “the equipment.. the machinery.. this whole barrage.. let people know that there will be a lot of equipment lying around..”

2. Cold, impersonal and uncomfortable

   • “very intimidating.. all the equipment.. a cold environment.. every effort should be made to make these rooms more patient friendly..”
   • “the whole hospital looked a little old to me.. you feel more comfortable in a newer hospital..”

3. Unexpectedly disorganized and cluttered

   • “You barge through with the gurney .. clothes hanging on either side.. my first impression was.. where the hell are we the laundry or something..”

IIb. Technical Content

1. Explain events or effects of care before it happens

   • “she told me exactly what was going to happen before it happened.. I was very relaxed when it did happen..”
   • “it is better to warn people that there might be a reaction.. that it might happen..”
   • “I would like to know what they are going to do to me..”
   • “when they gave me the medication to go to sleep .. I couldn’t breathe .. nobody told me anything about it.. I couldn’t talk properly and couldn’t breathe and they gave me oxygen..”
Table 7 (continued)

IIb. Technical Content (continued)

2. Promote communication

- "you feel like they are going to take their time. you can talk to them and ask them questions. you don’t feel like I better not say anything cause she’s obviously in such a hurry that I don’t want to bother her."

3. Competent delivery of care

- addressed patient needs and concerns (specific and general)
- consistent with expectations of care / discussed plan of care
- smooth and uneventful induction and intra-op course
- attentive and vigilant anaesthetist

- "I let the anaesthetist know I didn’t want anything over my face."
- "the comforting they gave. they were right beside me. reassuring me. making sure that I had no further questions. that I was warm. that I was okay."
- "I had three different anaesthetics and they did it differently each time."
- "(this time) it happened very quickly. very gentle."
- "they’re monitoring you pretty good. take your temperature and blood pressure."
- "They stay right with you all the time."

IIc. Interpersonal Behaviour

1. Place patient at ease

- Courteous, friendly, comforting, supportive, empathic
Table 7 (continued)

IIc. Interpersonal Behaviour (continued)

• “this time he was very gentle…”
• “they whip those gowns off... that’s the most embarrassing part…”
• “they were joking.. I was joking with them..”
• “I had someone who was very very kind to me..”
• “treated me like a person.. not a hunk of meat..”

2. Instills confidence and trust

• Reassuring, calm and relaxed. unhurried, attentive, vigilant

• “the anaesthetist was very reassuring.. very confident..”
• “took his time.. he knew I was afraid..”
• “I wasn’t afraid after he started talking to me and telling me all he was going to do..”
• “that’s the worst thing you can do.. give the impression that you are in a hurry..”

IId. Efficiency of Care

• smooth, orderly and efficient
• well-paced (no delays)
• harmonious and coordinated team effort
Table 7 (continued)

IIId. Efficiency of Care (continued)

- "it went very smoothly..."
- "explanations were given... everything went so smooth..."
- "calm and orderly..."
- "I just wanted to get it over with..."
- "they were still cleaning up... made me a bit nervous... cause maybe we were jumping the gun..."
- "(the resident) was calling "I need help here"... And nobody came to assist him... what a way to run a hospital..."

IIe. Outcomes of Care

1. Positive experience

- nice feeling, drifting off, not unpleasant

- "you go off nicely and easily so you don’t even know how long you’ve been there..."
- "it was fast... just a split second..."
- "(you go off so sleep) so smoothly and easily that you don’t even know anything... you just drift off..."

2. Unexpected adverse events

- smothering, couldn’t breathe, awareness
Table 7 (continued)

IIe. Outcomes of Care (continued)

- “I hope they never have to use ether... it’s horrible... an overwhelming smothering and sick as a dog afterwards...”
- “(when) they put the anaesthetic through the IV (it ) was very painful...”
- “when they gave me medication to go to sleep .. I couldn’t breathe ..”
- “I would be upset if I woke up and remembered it...”
- “I have a memory of possibly waking up in the operating room...”

III. PRE-DISCHARGE HOSPITAL CARE

IIIa. Physical Structure

1. PACU
   - hectic and busy
   - promotes a feeling of being cut off
   - large impersonal room
     - “there was just so many people in there..people scurrying about..”
     - “I didn’t have a call bell.. felt isolated and abandoned..”
     - “It was a bit like an assembly line..”

2. WARD

   a. inconveniences of care
      - cumbersome IV poles
      - unfriendly washrooms
      - tippy urine jugs

   b. faults in environment
      - plumbing leaks
Table 7 (continued)

IIIa. Physical Structure (continued)

c. inadequate staffing

- "(nurses) are not given time to do what they have to do."

3. HOSPITAL

- no parking for persons picking up patient

IIIb. Technical Content

1. Being provided accurate information

- surgical results / expected post-op surgical course and outcome
- unexpected events, complications, and side effects

- "they explained to me before.. that I would have to wait around for an hour or so which was about right."

- "the doctor (surgeon) told me (the operation) was only going to be one hour... when I found out (it took over two hours) I was very surprised."

- "why does that sore throat happen?"

2. Ensure patient safety

- keep you till you’re stable
- guide patient through recovery stages
- responds to changes in patient condition
- perceived deficiencies in care

- "make sure no (major) side effects are affecting the patient at that time (discharge)"

3. Attentive and responsive to patient needs and wants

- responsive to patient requests
Table 7 (continued)

IIIb. Technical Content (continued)

- “very good.. honest and helping me out..”
- “the nursing staff is supportive and makes you feel comfortable..”
- “there was not any time I needed anything..”
- “some nurses are pretty lax.. you might wet your bed and it takes them forever to change it..”
- “(nurses) are not given time to do what they have to do.. they could do the things they are asked to do some times..”
- “could have kept me longer to give me more time to come out of the anaesthetic..”

Receive unexpected benefits and advice

- “this time it was a walk in the park..”
- “I couldn’t believe how fast I came around”
- “(the nurses) gave me a plastic bag (to vomit in) for the care.. I was glad they thought of that..”

IIIc. Interpersonal Behaviour

- supportive / helpful / present / attentive vs. isolated and alone
- caring / kind / friendly / sensitive vs. insensitive and impersonal

- “feeling that you’re cut off and nobody knows you’re there”
- “bit like an assembly line the way they push you through” (PACU)
Table 7 (continued)

IIId. Efficiency of Care

- speedy
- orderly and efficient
- timely attention to patient problems and response to patient requests

- “in and out in a matter of hours”
- “it’s a great system if you can get us out earlier”
- “not rushed.. not a time I needed anything”

IIle. Outcomes of Care

1. Expected negative events

- nausea
- pain
- drowsiness
- sore throat

- “you wake up you always get a sore throat”
- “I would be upset but I understand people react differently to anaesthetics…”
- “they told me to expect that (vomiting in the car on the way home)…”

2. Unexpectedly severe negative events

- nausea
- pain

- “I came out of it pretty hard…”
- “the catheter was one of the worst things…”
- “ I thought that after my operation I would feel fine..(but) I feel sick and I throw up so many times”
Table 7 (continued)

IIIe. Outcomes of Care (continued)

3. Unexpected or unexplained negative events

- sore throat
- cut lip

- “I bite my lip.. I never saw my doctor to find out why..”
- “I saw wavy black lines..”

4. Unexpected speed and ease of recovery and discharge

- “wasn’t as bad as I expected..”
- “I came out of it so fast and felt wonderful..”
- “I expected to be sicker..”
- “You’re in and out in a matter of hours..”

IV. POST-DISCHARGE CARE

IVa. Technical Content

1. Adequacy of information on discharge care

- discharge instructions pertaining to surgical care
- explanations of prescriptions for medications
- consistent between doctor and nurses
- understood and achievable by patient
Table 7 (continued)

IVa. Technical Content (continued)

- "I don't think I had clear instructions ... What to do after leaving the hospital... Who to call... A number to call would have been more practical... Clear instructions should have been given before the anaesthetic..."

- "The doctor should have put (the time of bandage removal and follow-up) on the discharge card... if I hadn't phoned the hospital I wouldn't have known... it was his fault... If doctors want anything done the doctors should be told to leave the orders for the patient..."

- "When we came in, we were under the impression that it would be just a few bandages... (Now) I have a massive thing on my leg that I can't touch... I was under the wrong impression or misunderstood the severity of my mobility.".

2. Adequately prepared for potential complications and side effects

- explanations of side effects and complications to expect
- what to do if concerned or help needed

- "I got a (cut) on my lip... I don't know what happened to my lip... There was no clear explanation..."

- "If I had had a complication I wouldn't have known what to do about it..."

- "We were very concerned about the coldness of the leg (but) didn't know whom to call..."

3. Availability of support

- help at home
- follow-up call
- number or person to call
Table 7 (continued)

IVa. Technical Content (continued)

- "I had both my parents home and that helped quite a bit."
- "Who to call.. A number to call would have been more practical."
- "Calling you and seeing how you're making out.. that would be helpful."
- "If I had a serious problem I would have called my family doctor."

4. Unexpected benefits / advice

- "Sunnybrook called.. I was absolutely astonished.. I was surprised and appreciated it."
- "I thought that (the follow-up call) was an excellent idea."

5. Follow-up that monitors and optimizes surgical outcome

- "They didn't follow-up on my prostate job.. they should. monitor it and (make sure) everything (is) working out all right."

IVb. Interpersonal Care

- security of hospital environment vs. feelings of isolation and helplessness
- anxiety of surgical results

- "A longer stay in hospital would have been .. if something happens there would be somebody there who knows what to do..(You're) not protected (as much at home)."
- "I'm worried about my biopsy results."
Table 7 (continued)

IVc. Efficiency of Care

1. Acceptable cost-effectiveness of care

- "For what I presume is minor surgery I wonder only if we can afford (the number of people involved)."

2. Consistency and reliability of discharge information

- "The (information) given me did not apply."
- "If the doctors want anything done they doctors should be told to leave orders for the patient."

3. Well timed follow-up

- "I wasn’t called till (three days later)."
- "It would have been good for the hospital to call to see how I feel. what my recovery was to that point. that night and the next day to find out if you’re recovering."

IVd. Outcomes of Care

1. Expected adverse events

- "(severe nausea) wouldn’t have made any difference cause I would have just expected that to happen."
- "drowsy.. woozy .. hazy.. sleepy .. the drug came back on me."
- "leery of eating.. didn’t eat well..
- "threw up several times."
- "generally weak."
- "pain the next day"
Table 7 (continued)

IVd. Outcomes of Care (continued)

2. Expected but unexpectedly severe adverse events

- “I never anticipated it would be this uncomfortable..”
- “Afterwards you’re so sick you don’t feel like talking to anyone..”
- “It lasted for quite awhile .. I feel dizzy and throw up for half the day..”

3. Expected and unexplained adverse events

- “I felt tired .. had sore throat, sore neck and shoulder..”
- “cut lip”

4. Unexpected ease and speed of recovery

- “that afternoon I was having competent conversations with my mom..”
- “I was totally back to normal in 48 hours..”
- “The anaesthetic didn’t affect me at all.. I played mahjong that night and bridge the next day..”
Table 8: Quantitative count of all patient comments separated into temporal phases of care

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<th>TYPE OF COMMENT</th>
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Table 9: Distribution of coded comments within derived dimensions of care

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Table 10: Patient demographics of respondent and non-respondents of patient ranking survey

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</tbody>
</table>
Table 11: Overall ranked order of items in four temporal phases of care obtained from patients and anaesthetists (P = Patients; A = anaesthetists)

I. Rankings of pre-anaesthetic phase of care:

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimensions represented</th>
<th>P</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 All the hospital areas that I visit to get me ready for surgery are easy to find, convenient to get around, and comfortable to be in.</td>
<td>Physical structure</td>
<td>9</td>
<td>3.5</td>
</tr>
<tr>
<td>2 The anaesthetist identifies all my concerns, encourages me to communicate those concerns, and then answers all my questions.</td>
<td>Technical content</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3 I am informed about the rare serious risks and dangers about anesthesia.</td>
<td>Technical content</td>
<td>6</td>
<td>8.5</td>
</tr>
<tr>
<td></td>
<td>Outcomes of care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 My fears and anxieties about the surgery are handled appropriately beforehand.</td>
<td>Technical content</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>5 The anaesthetist or nurses tells me about the possible minor side effects of anesthesia.</td>
<td>Technical content</td>
<td>2</td>
<td>8.5</td>
</tr>
<tr>
<td>6 The anaesthetist discusses the anaesthetic care with me and involves me in the decision of what particular anaesthetic is best for me.</td>
<td>Technical content</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>7 The nurses and doctors are friendly, helpful and compassionate.</td>
<td>Interpersonal care</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>8 My family or support member was allowed to be with me before the surgery.</td>
<td>Interpersonal care</td>
<td>8</td>
<td>3.5</td>
</tr>
<tr>
<td>9 There are little to no delays and everything proceeded like clockwork in an orderly, predictable and smooth manner.</td>
<td>Efficiency of care</td>
<td>7</td>
<td>3.5</td>
</tr>
</tbody>
</table>
### Table 11 (continued)

#### II. Rankings of operating room phase of care:

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimensions represented</th>
<th>P</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The operating room is not so cold, impersonal and intimidating.</td>
<td>Physical structure</td>
<td>8.5</td>
<td>9</td>
</tr>
<tr>
<td>2 The anaesthetist or nurse talks to me as they ready me for the anaesthetic.</td>
<td>Technical content Interpersonal care</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>3 The anaesthetist is efficient and unhurried in his or her manner.</td>
<td>Efficiency of care</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4 I go to sleep pleasantly, quickly and smoothly.</td>
<td>Technical content Outcomes of care</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>5 The anaesthetist is kind, friendly and gentle.</td>
<td>Interpersonal care</td>
<td>8.5</td>
<td>7</td>
</tr>
<tr>
<td>6 The anaesthetist respects my needs and requests.</td>
<td>Technical content</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>7 I feel calm and relaxed.</td>
<td>Interpersonal care</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>8 I feel confidence and trust in the anaesthetist and nurses looking after me.</td>
<td>Interpersonal care</td>
<td>2.5</td>
<td>1</td>
</tr>
<tr>
<td>9 The anaesthetist is always present to assure my safety while I am asleep.</td>
<td>Technical content</td>
<td>2.5</td>
<td>3</td>
</tr>
</tbody>
</table>
### Table 11 (continued)

#### III. Rankings of pre-discharge phase of care:

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimensions represented</th>
<th>B</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The room(s) I awaken in is (are) comfortable.</td>
<td>Physical structure</td>
<td>8.5</td>
<td>8</td>
</tr>
<tr>
<td>2 My family or support person is allowed to be with me as soon as I am awake.</td>
<td>Technical content, Interpersonal care</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>3 I feel safe throughout my recovery from the anaesthetic.</td>
<td>Technical content</td>
<td>2</td>
<td>3.5</td>
</tr>
<tr>
<td>4 The nurses are able to respond to my needs or requests quickly.</td>
<td>Technical content, Efficiency of care</td>
<td>3</td>
<td>3.5</td>
</tr>
<tr>
<td>5 I am able to leave the hospital in a matter of hours.</td>
<td>Efficiency of care</td>
<td>8.5</td>
<td>6</td>
</tr>
<tr>
<td>6 The nurses are caring, helpful, and do not rush me home.</td>
<td>Interpersonal care</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>7 Before I leave, I am told how the surgery and anaesthetic went and am given explanations about any unexpected complications.</td>
<td>Technical content</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8 I experience little or no immediate side effects like nausea, vomiting, pain, dizziness or sore throat.</td>
<td>Outcomes of care</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>9 I am thinking normally and clearly as soon as I wake up from the anaesthetic.</td>
<td>Outcomes of care</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>
## IV. Rankings of post-discharge phase of care:

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimensions represented</th>
<th>P</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I have received clear and adequate instructions about how to manage my own care at home.</td>
<td>Technical content Efficiency of care</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2 I am told about the minor or major discomforts and inconveniences that I might feel after the operation.</td>
<td>Technical content Efficiency of care</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3 I have a phone number or someone to contact if there is something I become worried about.</td>
<td>Technical content</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>4 I have enough help at home.</td>
<td>Technical content</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>5 The hospital phones me in the first 72 hours to see how I'm doing.</td>
<td>Technical content Efficiency of care</td>
<td>9</td>
<td>8.5</td>
</tr>
<tr>
<td>6 I have no or few side effects.</td>
<td>Outcomes of care</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>7 I am able to easily tolerate the side effects that I do experience.</td>
<td>Outcomes of care</td>
<td>6</td>
<td>6.5</td>
</tr>
<tr>
<td>8 I am able to resume normal activities right away.</td>
<td>Outcomes of care</td>
<td>8</td>
<td>8.5</td>
</tr>
<tr>
<td>9 I am able to obtain explanations about unexpected side effects and complications.</td>
<td>Outcomes of care Efficiency of care</td>
<td>7</td>
<td>6.5</td>
</tr>
</tbody>
</table>
Table 12: Correlation between anaesthetists and patients of ranked order of items in each temporal phase of care

<table>
<thead>
<tr>
<th>TEMPORAL PHASE OF CARE</th>
<th>SPEARMAN CORRELATION (P-VALUE, r = 0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-operative</td>
<td>-0.09 (p &gt; 0.25)</td>
</tr>
<tr>
<td>Intra-operative</td>
<td>0.63 (p = 0.09)</td>
</tr>
<tr>
<td>Predischarge</td>
<td>0.85 (p - 0.01)</td>
</tr>
<tr>
<td>Postdischarge</td>
<td>0.91 (p - .001)</td>
</tr>
</tbody>
</table>
Table 13: Distribution of scores used to determine the ranked order of items based on three different weightings of items

1. **PRE-OPERATIVE CARE**

<table>
<thead>
<tr>
<th>Item</th>
<th>Summed Total of Ranks From All Patients</th>
<th>No. of Times in Top Three</th>
<th>No. of Times as Top Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>33</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>13</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>28</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>29</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>23</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>11</td>
<td>6</td>
<td>1</td>
</tr>
</tbody>
</table>

2. **INTRA-OPERATIVE CARE**

<table>
<thead>
<tr>
<th>Item</th>
<th>Summed Total of Ranks From All Patients</th>
<th>No. of Times in Top Three</th>
<th>No. of Times as Top Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>38</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>18</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>11</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>35</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>35</td>
<td>17</td>
<td>8</td>
</tr>
</tbody>
</table>
Table 13 (continued)

3. **PRE-DISCHARGE CARE**

<table>
<thead>
<tr>
<th>Item</th>
<th>Summed Total of Ranks From All Patients</th>
<th>No. of Times in Top Three</th>
<th>No. of Times as Top Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>38</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>31</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>19</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>41</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>29</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>8</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

4. **POST-DISCHARGE CARE**

<table>
<thead>
<tr>
<th>Item</th>
<th>Summed Total of Ranks From All Patients</th>
<th>No. of Times in Top Three</th>
<th>No. of Times as Top Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>47</td>
<td>20</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>45</td>
<td>23</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>21</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>18</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>22</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>12</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>11</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>
FIGURES
Figure 1: Schematic of Data Collection

I. ANAESTHETISTS

Delphi Panel
1st iteration

↓

list of determinants
and derived dimensions

Delphi Panel
2nd iteration

↓

revised list of determinants
and dimensions

Delphi Panel
3rd iteration

↓

ranked determinants

II. PATIENTS

Individual patient interviews

↓

list of determinants
and derived dimensions

III. NOMINAL RANKING
PATIENT SURVEY

↓

ranked determinants
APPENDICES
Appendix 1: Patient Satisfaction Instruments in Anesthesia According to the Type of Rating Used

A. Multi-item ratings of patient satisfaction:

<table>
<thead>
<tr>
<th>Investigator (year/place)</th>
<th>Primary Purpose of the Study</th>
<th>N * (RR)</th>
<th>Survey Design **</th>
<th>Specific Item(s) Used to Assess Patient Satisfaction</th>
<th>Response Format</th>
<th>Level of Satisfaction Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghosh ²⁹ (1994/Great Britain)</td>
<td>To determine patient satisfaction with eight areas of day care surgery</td>
<td>557 (58.4%)</td>
<td>Mailback written questionnaire</td>
<td>Level of overall satisfaction in eight areas plus unspecified others (outpatient services; admissions procedure; day surgery unit; information; pain relief; post-operative management); questionnaire or exact question wording not given</td>
<td>Rated on a scale of 1 - 10 then recoded as 1 - 5: area of concern; 6-7: borderline; 8-9: reserved satisfaction; 10: first class</td>
<td>80% of all patients rated all areas as reserved satisfaction or first class. Patients rating day surgery unit as first class also rated outpatient services, information and pain control significantly more highly.</td>
</tr>
<tr>
<td>King ³⁰ (1989/Australia)</td>
<td>Assessing patient satisfaction in a day surgery unit</td>
<td>332 (44%)</td>
<td>Mailback questionnaire</td>
<td>Two dimensions with four items in each dimension: environment (waiting room; change room; lockers; recovery) and staff (clerical; medical; nursing; porter)</td>
<td>4 point scale (superior; satisfactory; unsatisfactory; no response)</td>
<td>98 -99% of patients rated medical or nursing staff satisfactory or superior; 95% rated clerical staff satisfactory or superior; only 73% did so for porter.</td>
</tr>
</tbody>
</table>

* N = number of actual patient responses; RR = response rate.
** Only that portion of the survey design specific to patient satisfaction is described.
B. Global single item ratings of overall patient satisfaction:

<table>
<thead>
<tr>
<th>Investigator (year/place)</th>
<th>Primary Purpose of the Study</th>
<th>N* (RR)</th>
<th>Survey Design**</th>
<th>Specific Item(s) Used to Assess Patient Satisfaction</th>
<th>Response Format</th>
<th>Level of Satisfaction Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep (^{31}) (1977/Great Britain)</td>
<td>Discovering patient perceptions of their care</td>
<td>100 (?)</td>
<td>Post-operative face to face interviews of patients using questionnaire with open and closed ended questions</td>
<td>Exact wording not given</td>
<td>Open-ended</td>
<td>100% said that they were satisfied including one lady that remembered her surgery and would have preferred to be asleep the next time!!</td>
</tr>
<tr>
<td>Moerman (^{32}) (1992/Netherlands)</td>
<td>Examined patient recollections of past anaesthetics</td>
<td>250 (?)</td>
<td>Interview of patients at pre-operative clinic</td>
<td>Asked to assess their satisfaction with previous anaesthetics (exact item not given)</td>
<td>5 point scale (very bad, bad, reasonable, good, very good)</td>
<td>58.2% reported care as reasonable; 15% reported care as good or very good; 27% reported their care was bad or very bad</td>
</tr>
<tr>
<td>Cohen (^{33}) (1992/Canada)</td>
<td>Prospective surveillance of major and minor adverse events in surgical outpatients at two teaching hospitals</td>
<td>1412 (41%)</td>
<td>Post-operative telephone interview</td>
<td>Patients asked how satisfied were they with their care (exact wording of item not given)</td>
<td>5 point response scale (very satisfied; satisfied; somewhat satisfied; not satisfied; very unsatisfied)</td>
<td>10% of patients reported being very dissatisfied</td>
</tr>
</tbody>
</table>

* N = number of actual patient responses ; RR = response rate.

** Only that portion of the survey design specific to patient satisfaction is described.
C. Global single item rating based on whether a patient would have same care again:

<table>
<thead>
<tr>
<th>Investigator (year/place)</th>
<th>Primary Purpose of the Study</th>
<th>N* (RR)</th>
<th>Survey Design**</th>
<th>Item(s) Used to Assess Patient Satisfaction</th>
<th>Response Format</th>
<th>Level of Satisfaction Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thompson 34 (1971/ USA)</td>
<td>Asking adult outpatients to report on their intra-operative and post-operative experience</td>
<td>180 (76%)</td>
<td>Mailback questionnaire using closed and open ended provider generated items</td>
<td>“Would you like to have this kind of anaesthetic again?”</td>
<td>yes/no</td>
<td>90% of patients receiving a barbiturate anesthetic said yes; 55% of those receiving ketamine said yes</td>
</tr>
<tr>
<td>Urbach 35 (1977/Canada)</td>
<td>Using patients reports to evaluate general anaesthetic techniques used for dental procedures and D&amp;C’s</td>
<td>350 (?)</td>
<td>Mailback questionnaire containing open-ended and closed ended questions</td>
<td>“Would you like to have the same anaesthetic again?”</td>
<td>open ended</td>
<td>91% dental patients said yes; 96% D&amp;C patients said yes (even though &gt;40% patients had at least one minor complication)</td>
</tr>
</tbody>
</table>

D. Global single item rating based on whether patients had problems with their anaesthetic:

<table>
<thead>
<tr>
<th>Investigator (year/place)</th>
<th>Primary Purpose of the Study</th>
<th>N* (RR)</th>
<th>Survey Design**</th>
<th>Item(s) Used to Assess Patient Satisfaction</th>
<th>Response Format</th>
<th>Level of Satisfaction Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clifton 36 (1984/Great Britain)</td>
<td>Discovering patient expectations and perceptions of their care in a sample of surgical inpatients</td>
<td>100 (?)</td>
<td>42 item written questionnaire containing open and closed ended items</td>
<td>“Did you have problems with your anaesthetic?”</td>
<td>yes/no</td>
<td>91/100 said no even though 86/100 reported well recognized sequela</td>
</tr>
<tr>
<td>Dodds 37 (1975/Australia)</td>
<td>Discovering perceptions and outcomes of patients undergoing surgery at private hospital</td>
<td>121 (97.5%)</td>
<td>Face to face administered post-op questionnaire</td>
<td>“Did you have any complaints about your anaesthetic?”</td>
<td>yes/no and open ended</td>
<td>0% reported any complaints</td>
</tr>
</tbody>
</table>

* N = number of actual patient responses ; RR = response rate.  
** Only that portion of the survey design specific to patient satisfaction is described.
E. Global ratings based on if patients would have day care surgery again:

<table>
<thead>
<tr>
<th>Investigator (year/place)</th>
<th>Primary Purpose of the Study</th>
<th>N* (RR)</th>
<th>Survey Design**</th>
<th>Item(s) Used to Assess Patient Satisfaction</th>
<th>Response Format</th>
<th>Level of Satisfaction Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahlgren ^3^ (1971/USA)</td>
<td>Audit of pediatric surgical patients: processes and outcomes of care</td>
<td>300 (?)</td>
<td>Mailback written questionnaire</td>
<td>“If the need for day surgery procedure arises again, would you be happy to have the operation in the (same) way?”</td>
<td>yes/no with reasons</td>
<td>81% yes; 8% no; primary reason for no was fear of complications</td>
</tr>
<tr>
<td>Philip ^5^ (1992/USA)</td>
<td>Follow-up of ambulatory care surgical patients</td>
<td>1511 (41%)</td>
<td>Mailback written questionnaire</td>
<td>“If you need it, would you choose to be a day surgery patient again?” and “how could we serve you better?”</td>
<td>yes/no; open-ended</td>
<td>97% said yes (96% reported at least one complication)</td>
</tr>
<tr>
<td>Hawkshaw ^6^ (1994/Great Britain)</td>
<td>Audit of day surgery outcomes</td>
<td>1008 (67%)</td>
<td>Post-operative telephone questionnaire</td>
<td>Preferences for day surgery again for similar procedure; exact wording not given</td>
<td>yes/no</td>
<td>87% yes; 9% no; 4% not sure. Reasons for no and not sure: fear of complications and poorer recovery. Only 6% reported general problems after</td>
</tr>
<tr>
<td>Cardosa ^7^ (1994/Australia)</td>
<td>Audit of processes and outcomes following outpatient arthroscopic knee surgery</td>
<td>465 (98%)</td>
<td>Post-operative telephone questionnaire</td>
<td>Patient satisfaction with ambulatory surgery management; exact wording not given</td>
<td>open ended?</td>
<td>99% said they were happy with their care</td>
</tr>
<tr>
<td>Osborne ^8^ (1993/Australia)</td>
<td>Audit of outcomes following day care surgery</td>
<td>6000 (?)</td>
<td>Post-operative telephone questionnaire</td>
<td>Patent satisfaction with day care services; exact wording not given</td>
<td>? open-ended or yes/no</td>
<td>98.9% said that they were happy with day care services</td>
</tr>
</tbody>
</table>

* N = number of actual patient responses; RR = response rate.

** Only that portion of the survey design specific to patient satisfaction is described.
Global ratings of patient satisfaction using unspecified methods:

<table>
<thead>
<tr>
<th>Investigator (year/place)</th>
<th>Primary Purpose of the Study</th>
<th>N* (RR)</th>
<th>Survey Design**</th>
<th>Specific Item(s) Used to Assess Patient Satisfaction</th>
<th>Response Format</th>
<th>Level of Satisfaction Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fleming (1992/USA)</td>
<td>Results of a national database tracking peri-operative processes and outcomes of nurse anaesthetists</td>
<td>4347 (?)</td>
<td>Retrospective review of data contained in standardized patient records of participating nurse anaesthetists</td>
<td>Not specified</td>
<td>Not specified</td>
<td>No patient or family was dissatisfied with their care!!</td>
</tr>
<tr>
<td>Chye (1993/ Australia)</td>
<td>Audit of outcomes following dental anaesthesia and sedation</td>
<td>1180 (?)</td>
<td>Post-operative telephone questionnaire</td>
<td>Not specified</td>
<td>Not specified</td>
<td>99% of patients satisfied</td>
</tr>
</tbody>
</table>

* N = number of actual patient responses; RR = response rate.

** Only that portion of the survey design specific to patient satisfaction is described.
Appendix 2: Questions in first questionnaire iteration of Delphi technique

What determines quality in outpatient anesthesia care?

Is patient satisfaction in outpatient anesthesia care a clinically useful outcome? Why or why not?

What elements of a patient's anesthetic experience determines their level of satisfaction with their anesthesia care?

What elements of a patient's anesthetic experience determines their level of dissatisfaction with their anesthesia care?
Appendix 3: Schedule of questions used in patient interviews

1) Anything unusual, surprising or unexpected happen during the last anesthetic, before or after?

2) actual pre-op experiences and memories?
   expectations
   preferences, needs
   concerns
   fears
   process

3) intra-op experiences and memories?
   needs and concerns
   process

4) post-op experiences and memories?
   needs, concerns
   side effects
   followup

5) important side effects that everyone should know about?

6) your most important concerns before the anesthetic?

7) list of things of what you most value in your anesthetic care? in your anesthetist?

8) how could we make care better for you the next time?

9) what would you say to a family member who was about to have their first general anesthetic?
Appendix 4: Patient ‘nominal ranking’ questionnaire:

The following list refers to elements of care that occurs before the anaesthetic.

Select from this list what you think surgical outpatients will consider to be the three most important elements of this care if they were to have a general anaesthetic as an outpatient again (PLEASE RANK THEM 1,2,3):

<table>
<thead>
<tr>
<th>Element</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>All the hospital areas that I visit to get me ready for surgery are easy to find, convenient to get around, and comfortable to be in.</td>
<td></td>
</tr>
<tr>
<td>The anaesthetist identifies all my concerns, encourages me to communicate those concerns, and then answers all my questions.</td>
<td></td>
</tr>
<tr>
<td>I am informed about the rare serious risks and dangers about anaesthesia.</td>
<td></td>
</tr>
<tr>
<td>My fears and anxieties about the surgery are handled appropriately beforehand.</td>
<td></td>
</tr>
<tr>
<td>The anaesthetist or nurses tells me about the possible minor side effects of anaesthesia.</td>
<td></td>
</tr>
<tr>
<td>The anaesthetist discusses the anaesthetic care with me and involves me in the decision of what particular anaesthetic is best for me.</td>
<td></td>
</tr>
<tr>
<td>The nurses and doctors are friendly, helpful and compassionate.</td>
<td></td>
</tr>
<tr>
<td>My family or support member was allowed to be with me before the surgery.</td>
<td></td>
</tr>
<tr>
<td>There are little to no delays and everything proceeded like clockwork in an orderly, predictable and smooth manner.</td>
<td></td>
</tr>
</tbody>
</table>
The following list refers to elements of care that occurs while in the operating room.

Select from this list what you think surgical outpatients will consider to be the three most important elements of this care if they were to have a general anaesthetic as an outpatient again (PLEASE RANK THEM 1, 2, 3):

<table>
<thead>
<tr>
<th>Element</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>The operating room is not so cold, impersonal and intimidating.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The anaesthetist or nurse talks to me as they ready me for the anaesthetic.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The anaesthetist is efficient and unhurried in his or her manner.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I go to sleep pleasantly, quickly and smoothly.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The anaesthetist is kind, friendly and gentle.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The anaesthetist respects my needs and requests.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel calm and relaxed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel confidence and trust in the anaesthetist and nurses looking after me.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The anaesthetist is always present to assure my safety while I am asleep.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The following list refers to elements of care that occurs while in hospital after the anaesthetic is over.

Select from this list what you think surgical outpatients will consider to be the three most important elements of this care if they were to have a general anaesthetic as an outpatient again (PLEASE RANK THEM 1, 2, 3):

<table>
<thead>
<tr>
<th>The room(s) I awaken in is (are) comfortable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>My family or support person is allowed to be with me as soon as I am awake.</td>
</tr>
<tr>
<td>I feel safe throughout my recovery from the anaesthetic.</td>
</tr>
<tr>
<td>The nurses are able to respond to my needs or requests quickly.</td>
</tr>
<tr>
<td>I am able to leave the hospital in a matter of hours.</td>
</tr>
<tr>
<td>The nurses are caring, helpful, and do not rush me home.</td>
</tr>
<tr>
<td>Before I leave, I am told how the surgery and anaesthetic went and am given explanations about any unexpected complications.</td>
</tr>
<tr>
<td>I experience little or no immediate side effects like nausea, vomiting, pain, dizziness or sore throat.</td>
</tr>
<tr>
<td>I am thinking normally and clearly as soon as I wake up from the anaesthetic.</td>
</tr>
</tbody>
</table>
The following list refers to elements of care that occurs while at home.

Select from this list what you think surgical outpatients will consider to be the three most important elements of this care if they were to have a general anaesthetic as an outpatient again (PLEASE RANK THEM 1, 2, 3):

<table>
<thead>
<tr>
<th>Element</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have received clear and adequate instructions about how to manage my own care at home.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am told about the minor or major discomforts and inconveniences that I might feel after the operation.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have a phone number or someone to contact if there is something I become worried about.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have enough help at home.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The hospital phones me in the first 72 hours to see how I'm doing.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have no or few side effects.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to easily tolerate the side effects that I do experience.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to resume normal activities right away.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to obtain explanations about unexpected side effects and complications.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>