

## GROUNDING THEORY - COLLECTION AND ANALYSIS OF QUALITATIVE DATA IN A PRELIMINARY RESEARCH INVESTIGATION

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For very practical reasons it is important to ensure that hypotheses which are tested in research studies in fact represent a reasonable interpretation of the situation under investigation. Careful research design and application of statistical tools can ensure the reliability of the conclusions drawn from the data collected. However, if the initial hypotheses are based on inappropriate assumptions held by the researcher, the results could be highly significant from a statistical point of view and, at the same time, totally irrelevant. This is especially possible when what is being investigated is dependent upon human behaviour.

Many of the problems in animal health care and management with which epidemiologists deal are complicated by the vagaries of human behaviour. In studying such problems, assumptions as to why people behave as they do will always have a profound influence on a researcher's line of inquiry and the conclusions that are drawn.

Social scientists have developed techniques for behavioural research to reduce the subjectivity of the data and the inherent uncertainty of its interpretation. These qualitative techniques can play an important role in the initial investigation of disease control and animal management issues. Glaser and Strauss (1976) described two such tools and used them in their investigation of hospital care for patients, and of nurses' attitudes towards patients. The tools (a specific technique for content analysis of in-depth interview data and a procedure for constant comparison of interview events) were used to create a substantive theory grounded in fieldwork data by defining the line of inquiry "... from the actor's own frame of reference" (Bogdan and Taylor 1975).

These tools have been used in a study of the way in which veterinary practitioners search for information with regard to veterinary innovations. To eliminate any preconceived ideas concerning the information search process used by veterinarians it was important to concentrate on the validity<sup>2</sup> of the data collected rather than its statistical significance.

### SAMPLE SELECTION AND INTERVIEW TECHNIQUE

As Glaser and Strauss suggested, the selection of interviewees was based on a desire to include as many divergent subgroups of the population as

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<sup>2</sup> For a discussion of the difference between validity and reliability, see Lehmann 1979 p. 94

possible. Practically speaking this meant that individuals who were likely to challenge the developing pattern of results because of unusual post graduate training, geographical isolation, sex, affiliation to professional groups, etc. were included in the sample. There was no specific sample size or composition set at the beginning of the investigation. The starting point was arbitrary. University veterinarians were the first group to be interviewed. This group was the most convenient while the interviewing technique ( the questioning, taping, and transcribing) was being refined. From this point interviewees were selected to represent as broad a cross section of the profession as possible.

#### CONTENT ANALYSIS

The interviews, which were relatively unstructured, were taped<sup>a</sup> and transcribed later the same day. Transcripts were arranged to leave a wide margin on the left hand side of the page for analysis - next to the relevant script. Transcriptions and analysis were completed as soon as possible after the interview took place. This was essential to preserve the non-verbal data (reactions, body language, impressions, etc.).

The transcripts were examined to identify categories (e.g. attributes of information) that related to the phenomenon being investigated. The categories were expanded by identifying their properties (e.g. familiarity, on hand, current). In addition to categories and properties, the researcher's impressions of the subject's behaviour and the significance of comments were noted. Categories, properties, and researcher's notes were recorded in the space provided to the left of the transcript.

When the initial examination of the transcript was completed the researcher's notes were transferred to a separate record sheet, and each category was transferred to its own index card with its properties listed below.

At this point the resulting transcript, category cards, and researcher's notes were used as the basis of comparison between separate interviews.

#### CONSTANT COMPARATIVE METHOD

As each interview event was documented the researcher referred back to previous events to see if categories and properties were being repeated or new ones generated. The category cards were expanded with each additional event. Patterns of responses emerged quickly. For example, veterinarians repeatedly commented that time was such a critical factor that most information searches were related to current problems rather than in anticipation of need.

In the early stages it was very important to compare each event. However, as additional events were processed the point of comparison shifted from an individual event to a generalized event category generated by the comparison process.

Repeated responses suggested a behavioural pattern. Not only did categories become obvious but the interrelation of categories began to emerge.

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<sup>a</sup> From practical experience, the audio-taping of interviews was essential to preserve the exact detail of responses.

These interrelations were recorded as researcher's notes which, subsequently, became hypotheses (e.g. veterinarians prefer information that is immediately at hand). When the investigation began the researcher had to make some assumptions in order to direct the first interviews. However, with the constant comparative method, these assumptions were replaced quickly by the new grounded hypotheses. The researcher's biases were eliminated as soon as possible.

This also allowed a finer focus on the area of inquiry by constantly reassessing the investigation. For example, it was clear that there were a number of career choices (part time employment, senior managerial position, etc.) made by veterinarians which influenced their search behaviour. However, to investigate the implications of these decisions was not within the scope of the study. Therefore, the line of inquiry was directed away from this particular aspect.

The collection of interview events was terminated when no new categories of properties were found. Not all the hypotheses were robust enough to withstand repeated challenges. Those that were not repeated in subsequent interviews were eliminated. For example, final year students were very uneasy about ever having to admit to their clients that they did not know the answer to a question. This was the only group in the sample that had this concern. Hypotheses were reworked to be as specific and inclusive as possible.

At the completion of the investigation the researcher was left with:

- 1) a set of categories and their properties,
- 2) a set of hypotheses that integrated the categories,
- 3) the concepts, language and terminology used by interviewees,
- 4) the focus of the line of inquiry,
- 5) examples veterinarians used to describe search behaviour.

Developing the theory governing the search process was reduced to a matter of putting all the pieces of the puzzle together. It must be remembered that the objective was to create a theory, not to test pre-existing hypotheses. The crux of the technique is that the theory must be grounded firmly in the data, not imposed by the researcher. Once a theory of search behaviour had been developed, it was tested on the population of veterinary practitioners in the second phase of the study.

#### REFERENCES

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