Ms Liz Gill

L Gill and L White,
University of Sydney

Perceived Interactive Service Quality and Health Outcome

Abstract

Based on the evidence that service outcome is a direct consequence of the process of service co-creation and co-production, this paper reports on a pilot study for future research aimed at understanding interactive health service quality through an investigation of the three key levels of service participants: manager; direct service provider; and client.

The initial qualitative research results have identified three primary determinants of perceived service quality for a community-based aged care service, specifically Interpersonal Quality, Technical Quality and Administrative Quality.

The primary determinants appear to be the direct result of a number of common key sub-determinants: interaction and relationship; outcome and skills; organisation and management.

Accordingly, a conceptual framework is proposed along with a methodology for testing the model and then measuring perceived interactive service quality.

Introduction

The definition and management of healthcare quality has resided with the service provider and has traditionally been through the use of objective criteria defined as essential to assessing the outcomes of clinical care, namely mortality and morbidity.

In the 1990s, best practice and evidence based medicine emerged, resulting in the development of associated clinical frameworks and guidelines (2006).

Healthcare has been slow to move beyond a supply-side method to measuring and reporting quality, with current approaches to quality in health care being based largely on areas defined by service providers as important, rather than on the evidence of what matters to clients1 (Wong, 2002).

Carman (2000) highlights that medical professionals prefer to focus only on the technical outcomes, yet Grol (2000) points out that as clients are co-producers of the outcomes of their care, the effective use of evidence based guidelines will depend largely on the behaviour of the client.

Therefore understanding quality from the perspective of the client is emerging as a critical issue in health services delivery, especially as research is showing that physicians have the poorest understanding of client expectations compared to health administrators, client contact employees, and medical and nursing students (O’Connor et al., 1994, O’Connor and Trinh, 2000).

In fact all groups in these studies underestimated client expectations for service reliability, assurance, responsiveness and empathy, but overestimated client expectations for tangibles.

---

1 The literature uses the terms client, consumer, patient, service recipient, and service user synonymously. This paper adopts the consistent use of the word “client” throughout.
Quality in the health sector cannot be achieved through a focus solely on the clinician, clinical practice and conformity to clinical guidelines, as this ignores the significant co-contribution that the client makes to the service delivery process (Lengnick-Hall, 1995).

A number of studies have shown that the client perceptive side of quality, perceived service quality, is directly linked to compliance with medical advice and treatment regimes (O'Connor et al., 1994, Irving and Dickson, 2004, Sandoval et al., 2006) which relate directly to achieving better health outcomes. Further, the literature shows significant reductions in the total cost of care when the process quality of the service improves, with the dynamics of poor service provision often involving wasted effort, repetition, and misuse of skilled employees (Kenagy et al., 1999).

Further, Kenagy et al. (1999) point out that an increase in perceived service quality results in improved outcomes generally in medical illness and specifically in controlled studies of diabetes, hypertension, asthma and rheumatoid arthritis.

Surgical outcomes show similar effects with fewer complications and shorter hospital stays. In a study by Kuzel et al. (2004) focusing on client perspectives regarding medical errors after an adverse event resulting in harm, it was found that breakdowns in access to and relationships with clinicians may be more prominent in determining the client’s perception of service quality than technical errors in diagnosis and treatment.

Therefore the actual process of service delivery can potentially be a major contributing source of the variation in clinical outcomes for exactly the same protocol.

This paper focuses on the cognitive construct, perceived service quality, which is depicted in the services literature as being separate, independent and antecedent to the cognitive/affective satisfaction construct.

It provides an overview of the findings in the recent literature for the dimensions of client perceived service quality; it presents the conceptual rationale for the study of interactive service quality; it outlines the design and findings of an initial study aimed at identifying the key determinants and sub-determinants of interactive service quality; and it presents a conceptual model and outlines the future research agenda.

**Service Quality As Perceived By the Client**

On the basis of the commonly cited primary determinants of service quality in the marketing literature, Dagger et al. (2007) qualitatively identified four principal dimensions which reflect the oncology client’s service quality perceptions. They argued that the first of these dimensions, *interpersonal quality*, is determined by the dyadic interaction and the relationship that develops between the service provider and the client because services are produced, distributed and consumed through the interplay that occurs between the service provider and the client. They highlight that this interpersonal process is therefore critical to the client’s perception of the performance of the service provider. The second dimension they described is *technical quality* which they contend, reflects the outcome of the service process or what the client receives as a result of interacting with the service provider along with the expertise, professionalism and competency of the service provider in delivering the service. Their third dimension is *environment quality*, which they maintain is made up of the background characteristics of the service environment (atmosphere), along with the physical elements of the service (tangibles). Their last dimension is *administrative quality* with three themes namely: timeliness, operation and support. Administrative quality they depict as the service elements that facilitate the production of the core service, and at the same time adding value to the client’s use of the service.
On the basis of their research and that of others, they conclude that service quality is perceived at multiple levels of abstraction. Figure 1 depicts the service quality elements of the multidimensional model developed by Dagger et al. (2007).

**Figure 1: Elements of Client Perceived Service Quality**

<table>
<thead>
<tr>
<th>SUB-DIMENSIONS</th>
<th>DIMENSION</th>
<th>GLOBAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction</td>
<td>Interpersonal</td>
<td>Client Perceived Service</td>
</tr>
<tr>
<td>Relationship</td>
<td>Quality</td>
<td>Quality</td>
</tr>
<tr>
<td>Outcome</td>
<td>Technical</td>
<td></td>
</tr>
<tr>
<td>Expertise</td>
<td>Quality</td>
<td></td>
</tr>
<tr>
<td>Atmosphere</td>
<td>Environment</td>
<td></td>
</tr>
<tr>
<td>Tangibles</td>
<td>Quality</td>
<td></td>
</tr>
<tr>
<td>Timeliness</td>
<td>Administrative</td>
<td></td>
</tr>
<tr>
<td>Operation</td>
<td>Quality</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Dagger et al., 2007)

**Interactive Service Quality**

As early as 1985, Solomon et al. (1985) highlighted that a service encounter was a human interaction; and Czepiel (1990) maintained that services research should include the perspectives of those involved in the creation of the service.

Accordingly, if a service encounter is based on the interactive process between the client and the service provider (Grönroos, 2001), then the current measurement and assessment of perceived service quality through the client, has largely ignored the interactive process that must occur in the production and consumption of the service.

On this basis Svensson (2002) proposed that overall service quality may ultimately be dependent on the interaction that occurs between all the participants of a service network.

Svensson (2003) argued that interactive service quality was dependent on the provider and client perspectives of the interaction that occurred during the production, distribution and consumption of the service because: the interactive process directly impacts on the actual performance of the service; the service outcome is a direct result of the interactive process; the performance of the service provider as well as client’s interpretation of the quality of the service is influenced by interactive process; both the provider and client’s perception of the service are affected by the
interactive process; and the service outcome is also influenced by third parties in the service network along with situations where a service is a part of a sequence of services.

Further, Svensson (2006) suggested that service quality could be consequential to the outcome of a succession of interdependent service encounters, and accordingly that the parameters of time and context would influence interactive service quality (Svensson, 2004) thereby creating a positive or negative scenario of either dissonance or congruence between provider and client perceptions of service quality.

In addition, the newly emerging theory of Service-Dominant Logic (Lusch et al., 2007) lends added support for a focus on interactive health service quality.

This theory advocates viewing the client as an operant resource\(^2\), that is, a collaborative partner and a resource, who can influence other resources in the service delivery process, and who co-creates the value of the service.

Within this model, a health service can be described as utilising the sum of the dynamic resources, such as competencies (skills and knowledge), that are capable of acting and producing effects on other resources for the benefit of the client.

Importantly, collaboration between the service provider and the client is seen as encompassing two essential components, namely co-creation of value (as value can only be determined by the client in the consumption process) and co-production of the service.

A significant implication of this logic is that the focus for research should be on relationship formation and consumptive behaviour.

**Study Design**

Qualitative data were obtained from an initial case scenario specifically utilising the convergent interview technique (Dick, 1990) with the scenario consisting of the manager, their care workers, and their clients. Each interview lasted for approximately one hour.

The aged care clients interviewed were experienced, sequential and required multiple services; and each had the dual objectives to remain in their own home and avoid unnecessary hospital admission and permanent nursing home placement.

Participants were purposively recruited through the Research Manager of a large community based aged care service organisation. The manager and the direct service providers were interviewed at their office and clients interviewed in their home (the place of their service).

Once the service manager had self identified as being interested in participating and had gained agreement to participate from three of their direct service providers, the researcher made individual contact with both the manager and direct service providers to brief them on the research and gain their consent to participate.

The direct service providers then identified potential clients, with the selection criteria being that the client speak English and be over the age of 65, with either the client (subject to the level of cognition) and/or their designated carer (when the client was cognitively disabled) being agreeable to an interview.

To identify service quality perceptions the following types of questions were asked: “Can you tell me what you think are the things that best describe the quality of the care and support this service provides? Can you tell me more about …? Could you tell me which are the most important?”

\(^2\) As opposed to an operand resource which is defined as one on which an act is performed to produce an effect.

Each interview was recorded and transcribed and data were sequentially analysed after each interview using a manual content system with key responses highlighted and then categorized into responses reflecting the determinants of service quality with additional categories being developed and existing categories revised as necessary.

Recurring themes and rankings were identified and patterns in the data were noted, and themes and rankings were substantiated and refined by re-checking the raw data to confirm interpretations.

**Qualitative Findings**

The manager, three care workers and a total of seven clients were interviewed (four were actual clients and three were the designated carers, with the responses of both being comparable).

Interaction presented as the major recurring theme throughout the qualitative study, with all participants stressing the importance of the quality of the *interpersonal* interface between the service provider and the client.

The manager focused on the importance of matching the care worker to the client, their interaction and their relationship with the care worker; the care workers focused on their interaction and building a relationship with the manager and the client through their communication and manner; and the client on their relationship, interaction and communication, and “feeling comfortable” with the care worker.

The core interpersonal themes from the client’s perspective described in the literature and the most recent work of (Dagger et al., 2007) were confirmed; namely relationship, communication and manner. Clients talked about the importance of: trust and friendship; their care worker listening and explaining “nicely” and being willing, helpful, considerate and respectful.

The second recurring theme related to how the service was provided, that is the *technical* quality of the service.

The manager stressed the importance of the knowledge, training, expertise and skills of the care worker; the care workers focused on ensuring that they had the requisite knowledge and skills so the care provided was appropriate to the needs of the client attaining a good outcome, they could call for other expertise when necessary, and that the client was “happy” with the service; and the client identified having their needs met, the care worker being “good at their job” and that the job was “done properly”.

The core technical themes from the client’s perspective again matched that of the literature and the work of Dagger et al. (2007), specifically expertise/skill and outcome.

The final recurring theme related to how the service was managed and functioned, that is the *administrative* Quality of the service.

The manager highlighted the importance of organisation, management, co-ordination and operation of the service; the care workers identified the importance of maintaining accurate records and systems (for example medication schedules) and management support; and the client stressed the importance of the management and operation of the service with it being on time, flexible and functioning “well”.

The core administrative themes from the client’s perspective evident in the literature and the work of (Dagger et al., 2007), explicitly operation and timeliness, were confirmed.
### Table 1: Summary of Service Quality Determinants by Level of Service Participant

<table>
<thead>
<tr>
<th>Service Participant</th>
<th>Interpersonal</th>
<th>Technical</th>
<th>Administrative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Service Interaction</td>
<td>Knowledge</td>
<td>Management</td>
</tr>
<tr>
<td></td>
<td>Relationship</td>
<td>Training</td>
<td>Operation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expertise/Skills</td>
<td>Co-ordination</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outcome</td>
<td>Co-operation</td>
</tr>
<tr>
<td>Manager</td>
<td>Worker/Client Match</td>
<td>Knowledge</td>
<td>Management</td>
</tr>
<tr>
<td></td>
<td>Interaction</td>
<td>Training</td>
<td>Operation</td>
</tr>
<tr>
<td></td>
<td>Relationship</td>
<td>Expertise/Skills</td>
<td>Co-ordination</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outcome</td>
<td>Co-operation</td>
</tr>
<tr>
<td>Care Worker</td>
<td>Relationship/Interaction with</td>
<td>Skills</td>
<td>Operation</td>
</tr>
<tr>
<td></td>
<td>Client and Manager:</td>
<td>Knowledge</td>
<td>Accurate records</td>
</tr>
<tr>
<td></td>
<td>- Communication</td>
<td>Expertise</td>
<td>Effective systems</td>
</tr>
<tr>
<td></td>
<td>- Manner (responsive,</td>
<td>Outcome</td>
<td>Management support</td>
</tr>
<tr>
<td></td>
<td>supportive and accommodating)</td>
<td></td>
<td>Co-operation</td>
</tr>
<tr>
<td>Client</td>
<td>Relationship with the Care Worker</td>
<td>Skills</td>
<td>Operation</td>
</tr>
<tr>
<td></td>
<td>(Trust, Friendship)</td>
<td>Knowledge</td>
<td>Organised,</td>
</tr>
<tr>
<td></td>
<td>Communication (Listening,</td>
<td>Expertise</td>
<td>Co-ordinated</td>
</tr>
<tr>
<td></td>
<td>Explaining)</td>
<td>Outcome</td>
<td>Timely</td>
</tr>
<tr>
<td></td>
<td>Interaction/Manner</td>
<td></td>
<td>Flexible</td>
</tr>
<tr>
<td></td>
<td>(Considerate, Respectful,</td>
<td></td>
<td>Management</td>
</tr>
<tr>
<td></td>
<td>Willing, Helpful)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Conceptual Framework

The results offer a theoretical model for interactive service quality and indicate that perceptions of “in-the-home delivered” community based health service quality are derived from three primary determinants, namely interpersonal quality, technical quality and administrative quality, shared by all three levels of service participants.

These primary determinants appear to be the direct result of key sub-determinants and lend further support to the propositions of the most recent literature (Dagger et al., 2007), which suggests that service quality is hierarchically evaluated from a sub-determinant to a determinant to an overall level.

These initial findings suggest firstly that a focus on three primary quality domains for a community delivered health service will be achieved through attention to the sub-determinants.

Secondly, that Interpersonal Quality plays a critical role in the formation of interactive service quality, with the sub-determinants relationship and interaction being shared by all three levels.

Thirdly, that the technical quality sub-determinants, skills and outcome, are mutual to all three levels of service participant and fourthly, that the administrative quality sub-determinants, organisation and management are common to all three levels of participant.

On the basis of these findings a conceptual model of Interactive Service Quality is presented in Figure 2.
Discussion

The results are limited to a community delivered service and cannot be generalised to other settings; with the consequence that the environment determinant, reported in the literature, has not been replicated in this study.

Further, on the basis of the literature and the findings of this research, it is argued that service outcome is influenced at three levels: the manager level, through the supply, distribution and management of resources; the provider level, through provider expertise, skills and interaction; and the client level, through their co-contribution and interaction.

Dabholkar et al. (2000) point out that service attributes are strongly related to total service quality and that client overall perceptions of service quality play a significant role in producing service outcomes. It is therefore suggested that to improve the outcome of a health service, consideration must be given to the contribution of all parties to the service creation and production.

Further, improved service outcomes can be facilitated through collaboration with clients, to better understand their health status and needs, and informing and empowering them with knowledge of the care process, their alternatives and their prognosis.

As this pilot study reports on an initial case scenario for a service that has a strong client focus, with its primary objective being specifically to meet the needs of its clients, it is intended that further qualitative research will be undertaken at the organisation’s different geographical locations as well as for at least one other community based aged care provider, to facilitate the further development and refinement of the primary determinants and key sub-determinants.
Interactive items will then be developed to construct a survey instrument designed to quantitatively assess interactive service quality and its impact on service outcome.

It is envisaged that this instrument will permit a triadic analysis of the congruence/dissonance in the perceptions of service quality between all three levels of players.

This will allow comparisons of the associations and differences in perceptions and offer the possibility for it being used to monitor and improve the interactive quality of the service and potentially its outcome.

References


