Patient Centred Care and Voice of Customer Techniques Supporting Inter-Departmental Process Redesign

Dr Kathryn J Hayes
School of Business, University of Western Sydney, Parramatta Campus, Australia
Email: kate.hayes@uws.edu.au

Mr Nick Reed
Principal Engineer and Lean Six Sigma Black Belt, ResMed Ltd, Sydney, Australia
Email: oznickr@gmail.com

Professor Janna-Anneke Fitzgerald
Griffith Business School, Griffith University, Gold Coast Campus, Australia
Email: Anneke.fitzgerald@griffith.edu.au

Efforts to increase patient/customer and carer centrality raise questions about how to identify patient/customer needs. This paper reviews challenges to increasing patient/customer involvement in health services delivery and discusses the suitability of Voice of Customer (VoC) techniques for collecting expanded views of patient/customer requirements. Incorporating Patient Centred Care ideals, the paper illustrates the value of VoC data in process re-design activities involving emergency and pathology department staff. VoC Critical to Quality Tree diagrams generated during thirty-minute interviews with staff members rapidly uncovered disparities in assessments of value, and priorities for pathology and emergency departments. The paper discusses ways in which VoC data can support clinician acceptance of patient/customer needs and desires, and encourage engagement with inter-occupational process changes.

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ABSTRACT

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The "customer driven" focus of corporations in the 80s and 90s (e.g. Carlzon, 1987) has reached healthcare systems around the globe, evidenced by efforts to increase patient/customer involvement and centrality (Berwick, 2009; Stewart, 2001). However accurately and reliably identifying patient/customer and carer needs has proved problematic (Bokhour, Pugh, Rao, Avetisyan, Berlowitz & Kazis, 2009). This paper reviews the opportunity to expand notions of Patient Centred Care (PCC) beyond communication and increasing patient/customer involvement in their health-care, discusses the suitability of the Voice of Customer (VoC) methods for collecting patient/customer requirements, and considers ways in which VoC data can support communication and collaboration between clinicians during redesign projects to enhance PCC.

Patient Centred Care – What is it?

The main tenets of patient centred care (PCC) direct attention to the individual (patient, consumer or client) and include: exploring the experience of disease and illness, understanding the whole person (including psychological and social context), developing a partnership to prioritise treatment and other goals, the active promotion of health and sharing power to develop a caring and healing relationship (Little et al., 2001). In addition to reasons grounded in notions of equity and dignity, economic concerns about the cost of health care delivery support the adoption of a range of PCC activities, for example, leveraging patient expertise through patient led groups to help manage chronic disease:

> The programme has brought measurable benefits for patients and health care providers. Patients report feeling more confident and able to manage their own health better. Overall, the programme saves the NHS money by driving down demand for GP and hospital services. Provisional results also suggest

> that every £1 spent on the Expert Patient Programme has brought a social return on investment of over £16. (Social Care Institute for Excellence, 2010, p. 1)

Similarly, PCC is reported to have positive effects on patient satisfaction, adherence to treatment advice, health care use and health outcomes (Finset, 2011). However, putting the patient at the centre of health care systems is acknowledged to be:

> ... bold; it is subversive, it feels very risky to both professionals and managers ... It is not focus groups or surveys or token representation. It is the active presence of patients, families, and communities in the design, management, assessment, and improvement of care, itself. It means customizing care literally to the level of the individual. It means, "Nothing about me without me." (Berwick, 2008)

While PCC is widely recognised as desirable, implementation has been problematic for a range of reasons. These include time constraints and the demands of multidisciplinary communication (Bolster & Manias, 2010), organisation-centred health care systems and patient non-participation (Eldh, Ekman & Ehnfors, 2008) and "hidden curricula" in medical schools perpetuating barriers related to historically strong professional identities (Haidet et al., 2006).

Radical calls to reverse the power relationships that currently exist between clinicians and patients are needed to draw attention to desirable end states. However, the strength and duration of the existing power relationships (Foucault, 1989), coupled with the challenges associated with training medical personnel to change attitudes and develop new competencies (Haidet et al., 2006; Lown & Kalet, 2008; Zoppi, Sodomka & Moretz, 2008) suggest a middle path may be productive. We now review the impact of professional identities in health care, suggest the use of Voice of Customer techniques as approaches to support increased patient, carer and community involvement in designing, managing and improving care systems and then illustrate the use of a VoC tool, Critical to Quality trees, with staff members from an Australian hospital.

Patient Centred Care and Professional Identity

The medical profession's interests include the social and financial organisation of its practice. The term 'profession' means a "special kind of occupation". This special kind of occupation is, unlike most others, deliberately granted autonomy. Professions are distinguished from other occupations by having members who have the exclusive right to determine how their professional knowledge is passed on and to whom; who can legitimately do its work; how the work should be done; if and when it should be evaluated and by whom (Abbott, 1988; Ackroyd, 1996; Conrad & Kern, 1994; Freidson, 1970; Freidson, 1977; Freidson, 1988; Hinings, 2001; Morgan, Calnan & Manning, 1985; Zola, 1992; Zola, 1994). Professional members claim special authority to determine the way things are to be made or done, and also the reasons why their services are mandatory (Illich, 1990). This

professional power is a specialised form of the privilege to prescribe, instruct, advise and tell a client what they need. Professionals do not only recommend what is good, but also ordain what is *right*. Considering the strong professional identity of the medical profession, it is no surprise that doctors devalue perspectives of those outside the profession, including patients (Friedson, 1988) and other para-professions, such as nurses. Even though nurses are autonomous and do not work under supervision of doctors (Boykin, 2001; David, 2000; Gardner & McCoppin, 1995), most doctors believe they are superior in knowledge, and that nurses essentially work under their clinical guidance and supervision. In addition, nurses foster a feeling of subordination themselves. Roberts (2000) asserts that nurses have difficulty taking control of their own destiny because of internalised beliefs about their own inferiority and inability to unite to challenge the inequality of power. Equally, such oppression may exist for other healthcare workers, such as pathology technical officers.

However, there are limits to this professional control, particularly in a time of institutional and organisational change. McKinley and Stoeckle (1994) believe that doctors' dominance is slowly changing due to the increasing professionalisation of health para-professions.

Professions are not static even if their members may generally attempt to protect their exercise of control and autonomy. Firstly, change is mediated through organisations and this affects professional identities. Care models developed in the United Kingdom have influenced the organisational evolution of public hospitals worldwide. The movement of acute care from home to hospital, the tradition of consultants having separate sets of private patients and public "charity cases", a strict and vigorously monitored hierarchy of occupational roles and institutional transmission of occupational norms (Hillman, 2009) are familiar in the health service delivery contexts of many nations. Secondly, although self regulated and evaluated, professional autonomy and control is not without limits, particularly where the organisation of work is changing, for example pressures to work in multi-disciplinary teams. Thirdly, changing societal and community values may impinge upon professional control and dominance, even if, again, professionals defend themselves against such influence by claiming superior knowledge. Such reforms are heavily contested and the historically powerful and strong professional identification of doctors as a group has produced a system largely centred on their interpretations of patients' needs. Hence, the transition towards inclusion of the voice of the patient (or customer) is problematic by nature.

Implementation of PCC

Good implementation of the ideals of PCC requires precise, reliable and prioritised customer requirements that are credible to the clinicians already working in, and in many ways controlling the evolution of health organisations. However little PCC research to date is empirical (Finset, 2011; Hudon, Fortin, Haggerty, Lambert & Poitras, 2011) and questions exist about how to identify and

measure patient/customer requirements. Patients' needs and desires, and performance assessments of existing services are essential to both delivery of PCC and guiding quality improvements such as process re-design (Kvåle & Bondevik, 2008) .

Conceptualisations of Patient Centred Care

To date much of the work regarding PCC has focussed on patient centred *communication*, frequently using questionnaires (Eldh et al., 2008; Hauer, Boscardin, Gesundheit, Nevins, Srinivasan & Fernandez, 2010; Little et al., 2001; Tucker, Marsiske, Rice, Nielson & Herman, 2011; van Empel, Hermens, Akkermans, Hollander, Nelen & Kremer, 2011; Wong, Fielding, Chit Ming & Hedley, 2008) or interviews (Kvåle & Bondevik, 2008; McCormack et al., 2011) to assess clinician performance. With a few exceptions (for example Altringer's (2010) consideration of the impact of the built environment on patient emotions) PCC research has focussed on communication between clinicians and patients. Producing a nuanced and practical understanding of patient centred communication such as M^{c}Cormack et al.'s recent framework (2011) is indubitably valuable. However, little attention has been directed towards other potential dimensions of patient and carer needs and wants, such as out-of-pocket costs and treatment outside "office hours" in the context of PCC.

Voice of Customer Analysis

While market research techniques have been used for decades to segment customers in health settings such as private dental practices (Weinstein, 1987), as described above, they have not been systematically or broadly applied to PCC. Voice of the Customer (VoC) is an established market research and continuous improvement technique used to identify, group and prioritise customer wants and needs, rank them, rank satisfaction with current performance and identify gaps between current and expected performance. In the marketing context of identifying new product ideas, Cooper and Dreher (2010) identify VoC methods as the most effective ways to develop insights into consumers unmet and unarticulated needs and problems. By providing a deductive way of extracting customer needs, including assumed, expected and unexpected requirements from patient groups, and permitting statistical generalisation to whole patient/customer populations, VoC has the potential to provide evidence- based data that is convincing to clinicians.

Existing uses of VoC in Health Services Literature

VoC is used infrequently in the scholarly health management literature, and never in the context of PCC. In an early example of the use of VoC, Radharamanan and Godoy (1996) used VoC techniques to understand customer requirements as input for continuous quality improvement in a Brazilian hospital. Aghlmand et al. (2010) recently examined maternity care in Iran, using VoC techniques to

identify the most important requirements of women giving birth and to determine improvement targets. However, maternity care is an atypical setting, representing a health context where the majority of patients are not in hospital due to illness and will place another individual's outcomes above their own. As Aghlmand et al. found, the well-being of the baby was the highest ranked demanded quality, clearly ahead of an item explicitly ranking maternal well-being. Therefore, opportunities exist to pioneer Voice of Patient (VoP) in a range of health services settings in support of PCC, and use the outcomes to examine the contribution they can make to PCC.

Aghlmand et al. (2010) provide a valuable introduction to VoC analysis, and its associated tasks of identifying, organizing, and ranking customer needs and requirements followed by setting organisational priorities to meet these requirements. Generally, VoC analysis follows a seven-step process, although some steps may be missed or others added depending upon the situation in which it is used. Key customer segments and sources of customer data are identified, preliminary interviews are used to identify customer "demanded qualities" which are then structured using affinity and tree diagrams. Demanded qualities can then be ranked using an analytical hierarchy process, followed by surveys to assess quality provision and analysis of survey results provide priorities for improvement.

Of course, in health care delivery it can be hard to identify customers with the same certainty that exists in manufacturing or retail settings. The strong influences of a range of health service stakeholders, such as health departments and doctors' associations, in addition to patients has been previously identified (Hayes, Reed & Fitzgerald, 2010) and present challenges in adapting tools originally developed for business management. However, the VoC approach is flexible enough to support use with a range of internal stakeholders, in addition to patients and carers.

In order to extend the use of VoC techniques in health services settings and assess their utility in expanding conceptualisations of needs and wants we now present the approach to, and findings from the use of a VoC tool, Critical to Quality trees, in an Australian hospital. Emergency Department doctors were voicing criticism of turn-around-time in the on-site laboratory for a period of 24 months prior to investigation by a university team. The two emergency and pathology stakeholder groups engaged in a Lean Rapid Improvement Event to identify ways to increase patient flow through the emergency department and improve patient care by reducing delays prior to treatment and discharge. As explicated below and further in the method section, Critical to Quality trees were developed during interviews with emergency doctors and pathology department technicians in order to understand and document the wants and needs of two groups before they engaged in process redesign as part of continuous improvement research and practice.

Critical to Quality Tree: A VoC tool

In contrast to the analytical hierarchy process tree diagrams used by Aghlmand et al. (2010) to build a hierarchy of demanded qualities and assign relative weights to each, we used a quality improvement tool frequently used in Voice of Customer activities known as a Critical to Quality tree (Siriwardena, 2009). A Critical to Quality tree helps to translate broad customer requirements into specific, critical to quality, measurements.

Figure 1 (below) uses a familiar, if prosaic example of home delivered pizza, to illustrate the use of Critical to Quality trees. The first level need identified in figure 1 is delivery of pizza. Drivers, or second level needs, have been identified during communication with the pizza purchaser as quality, delivery speed and variety. Surveys, focus groups, interviews and industry reports are all methods of collecting VoC data. In this example the three most important drivers are quality, delivery speed and pizza varieties available. Each second level driver, where possible, is then divided into measurable sub-components. As the example in figure 1 shows, quality is divided into three components: taste, appearance and temperature at the time of delivery. Other drivers could have been nominated by the customer, such as cost, ability to pay electronically or availability of salads to accompany the pizza. In this way needs and wants can be identified and documented, accommodating individual preferences, and discovering group needs.

Insert Figure 1 around here

Critical to Quality trees can be also be used with abstract or complex needs, such as patient centred care or high level goals such as, “We deliver quality results in a timely manner to provide the best possible care to our patients” as well as pizza delivery. Using Critical to Quality trees permits discussion and analysis of high-level goals, categorisation and ranking of subcomponents and identification of relevant measures in the space of a short interview.

METHOD

Semi-structured interviews and Critical to Quality trees were used to capture the needs of people working in the emergency and pathology departments, starting with general and abstract needs and wants (first level - hard to measure) and progressing to specific and easy to measure (third level). The interviews started with a discussion of delivery of value to patients in the emergency department, and continued to include internal stakeholders such as clinicians and pathology officers as groups and individuals who both deliver and receive value from their interactions with other departments in the

hospital. A Critical to Quality tree template with the goal printed on the left hand side, and the rest of the sheet left blank was provided to the interviewee at the beginning of the interview, and the researchers completed a second Critical to Quality tree template during the course of the interview. The Critical to Quality tree templates guided thirty-minute interviews held to collect, rank and develop measures of the wants and needs expressed by the two inter-dependent departments (emergency and pathology) in an Australian tertiary care hospital. The concept of the value delivered to patients by the shared process of the emergency was used to uncover the priorities of each individual interviewed, and their view of the key contributions they made to value delivery. Three members of the pathology department (the department manager and two technical officers) and two members of the emergency department (a nurse practitioner and an urgent care doctor) were interviewed. A small sample was used to gather VoC data as the tool was being used to gather needs, wants and current levels of satisfaction from the two departments prior to a Lean Rapid Improvement Event at the hospital, and was not intended to be generalizable to a larger population.

RESULTS

The interview discussions quickly progressed from the high-level goal "We deliver quality results in a timely manner to provide the best possible care to our patients" through needs and wants related to the other department to specific and reciprocal measures of current performance and desired states. The Critical to Quality trees (Figures 2 – 4) clearly demonstrate misaligned priorities between the two departments regarding *speed* and *accuracy*. The two pathology technical officers nominated *accuracy* as their highest priority while the members of the emergency department, and the pathology department manager identified *speed* of result availability to emergency personnel as their most important requirement. The third ranked need differed between pathology and emergency departments. Emergency staff identified *cost* of pathology as their third ranked driver of value. Pathology members identified their availability to *communicate* with emergency nurses and doctors as the third most important contributor to the value they delivered to the emergency department.

The Critical to Quality trees clearly showed where priorities diverged, but also consistencies between measures of performance, for example, in the pathology technical officers reports of contributors to delays in test processing. The pathology officers (Figures 2 and 3) both identified the time specimens waited to be logged into the pathology lab after arriving through the chute attached to the vacuum tube delivery system, and hand-delivery by ward orderlies as key contributors to delays in total Turn-Around-Time (TAT). These factors did not appear in the speed measures ED personnel identified (Figure 4). In contrast, ED personnel focussed on the benefits and disadvantages associated with point-of-care pathology testing machines, over-ordering of tests and delays associated with transporting samples to a central lab for after-hours processing when the on-site lab was closed. One

ED doctor working in the Urgent Care Centre that existed within the ED added that while he was not a frequent user of pathology, whenever he did use it he would ring twice to expedite the test to ensure he met the two-hour performance criterion for the centre.

In a second stage of analysis, the Critical to Quality tree data collected from the small sample could be used to develop a questionnaire to be completed by a statistically significant sample group. The data and results from the questionnaire could then be used to validate the original Critical to Quality trees, quantify how the need is or is not being met, and what dimensions of quality should be measured to improve and monitor performance. A VoC questionnaire based on Critical to Quality tree data can also facilitate application of statistically based improvement techniques.

Insert Figure 2 around here

Insert Figure 3 around here

Insert Figure 4 around here

Use of the VoC Critical to Quality Tree diagrams, generated during the interviews rapidly uncovered disparities in views of what constituted valuable activities, and the top priorities for the pathology and emergency departments. The VoC data supported engagement between the two departments during the Lean Rapid Improvement Event. Communication and collaboration in the interests of patient centred care during the Lean Rapid Improvement Event was enhanced by the clear understanding that ED personnel were very satisfied with the accuracy of results, but not with speed of delivery. This supported discussion of the inter-dependent nature of the work the two groups performed to support patients, and the implementation of two improvement ideas that have almost halved the Turn-Around-Time (TAT) for one of the ED's most frequently requested tests (Full Blood Count).

DISCUSSION

The use of a VoC approach to the ED-Pathology interdependence has demonstrated its utility and speed in identifying wants and needs of different groups in a health services setting. Furthermore, it has shown value in translating high-level goals into concrete measures that clinicians working in different areas understand and share, for example, Turn-Around-Time. It provided a focus on what was important and currently not performed well (speed of delivery), while providing opportunity to acknowledge the excellent work done in the ED's second ranked criterion (accuracy). It may seem unusual that accuracy was ranked second, but the rankings are relative. Members of the ED commented that pathology tests are one tool used in diagnosis, and that alternatives, supplements or substitutes are sometimes available. However, if accuracy were to become problematic it would be expected that it would move up to top position in the ED Critical to Quality Tree. The pathology officers saw their availability to answer questions, search for samples, provide estimates of times test will be complete or expedite test processing as providing value, even though it was problematic for them in reducing the time for running tests as providing value. ED saw it as cause for complaint; while they appreciated the willingness of the pathology staff to take their calls their preference would be for communication to be limited to fast delivery of test results via the computer screens in the ED.

PCC includes the rapid delivery of services, and accurate diagnosis without undue delays. This paper illustrated a VoC technique used to illuminate diverse values in inter-dependent departments. Understanding and aligning these values has potential to improve the patient journey and reduce delays. In the same way that the pathology officers ranked phone communication as a key form of value they provided to the ED, it is possible that similar misalignments of value are routinely occurring between patients and clinicians. Using Critical to Quality Trees and other methods to collect VoC data is likely to provide clear goals to improve health services' abilities to meet patient/customer requirements, and be used with well-established marketing disciplines, such as market segmentation, to identify different needs for sub-groups in the population. For example, pregnant women are likely to share some needs, but also have distinctly different requirements when compared to women over eighty. Intriguing possibilities exist to use VoC methods to capture and analyse large volumes of patient and carer complaints using call centres and internet-based systems (Pyon, Woob & Park, 2011). We assert knowledge derived from VoC data can be used to support the delivery of evidence-based medicine and accurately meet the needs and wants of a range of patient/customer groups. Furthermore, VoC data also provides a vital link to quality improvement activities and, with its statistical origins, supplies data that clinicians are likely to embrace.

The Critical to Quality tree tool used to capture VoC data in the ED-Pathology project provided a pathway to increased, shared understandings of the ED-pathology request-test-report cycle and to

simultaneously improve the process for patients, ED and pathology staff. VoC techniques require engagement with “customers” whether they be patients, carers or other consumers of health services. Historically, the identification of what constitutes a valuable service for patients has been made by health service providers. This can easily lead to imperfect understandings. While the example in this paper focuses on two internal stakeholder groups who work together to deliver value to patients, many opportunities exist to use VoC techniques with patients and carers in a wide range of settings.

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Figures and Tables

Figure 1: Example of Critical to Quality (CTQ) Tree for Home Delivery of Pizza

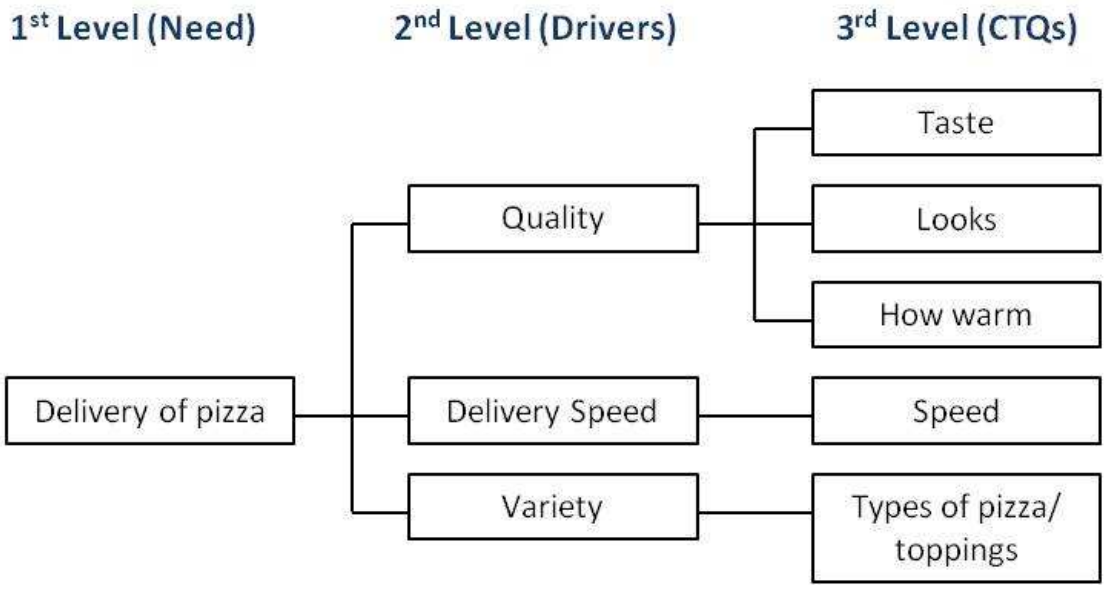

Image Source: (SimCrest Inc, 2010)

Figure 2: Pathology Technical Officer 1, VoC Critical to Quality Tree

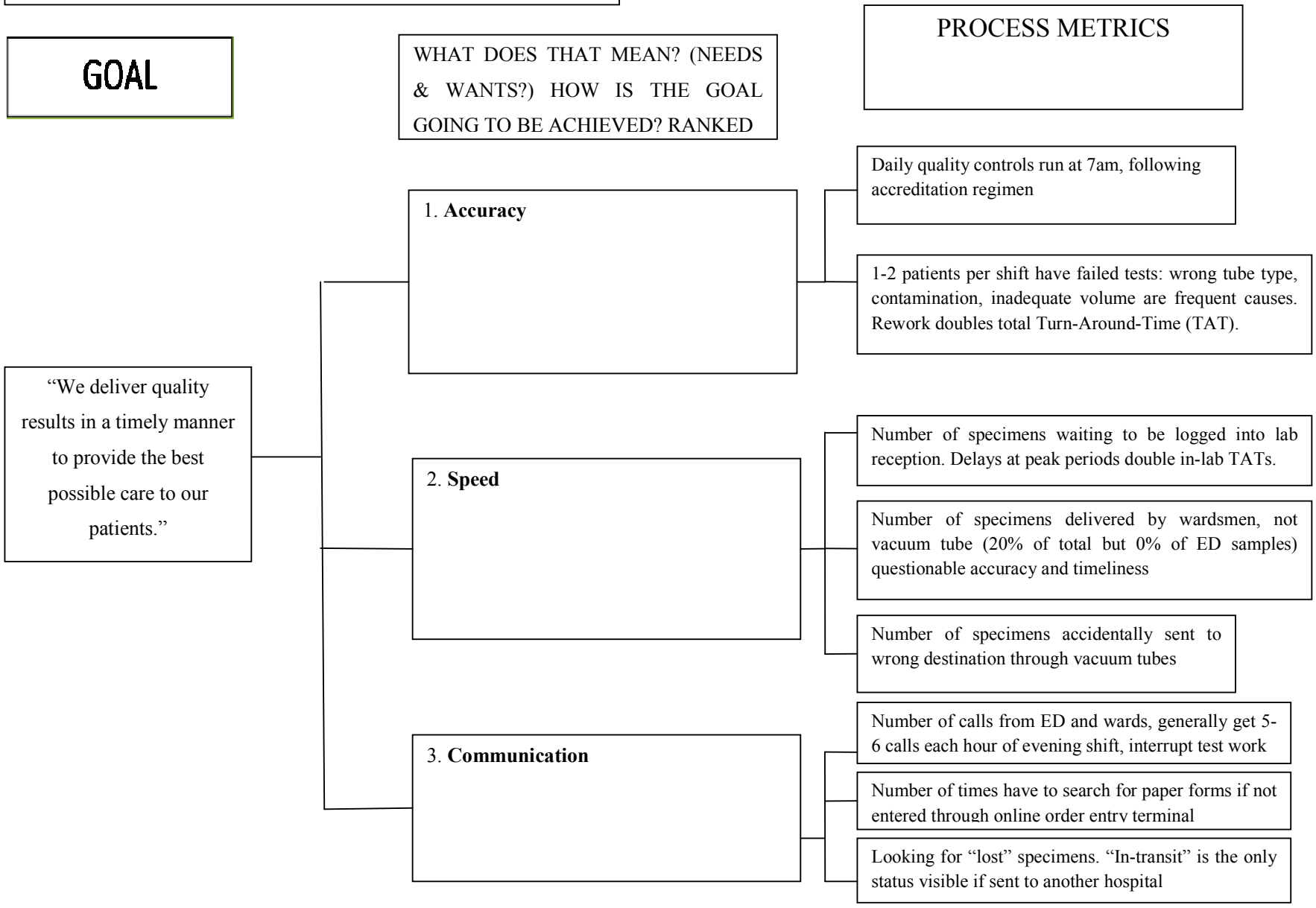

Figure 3: Pathology Technical Officer 2, VoC Critical to Quality Tree

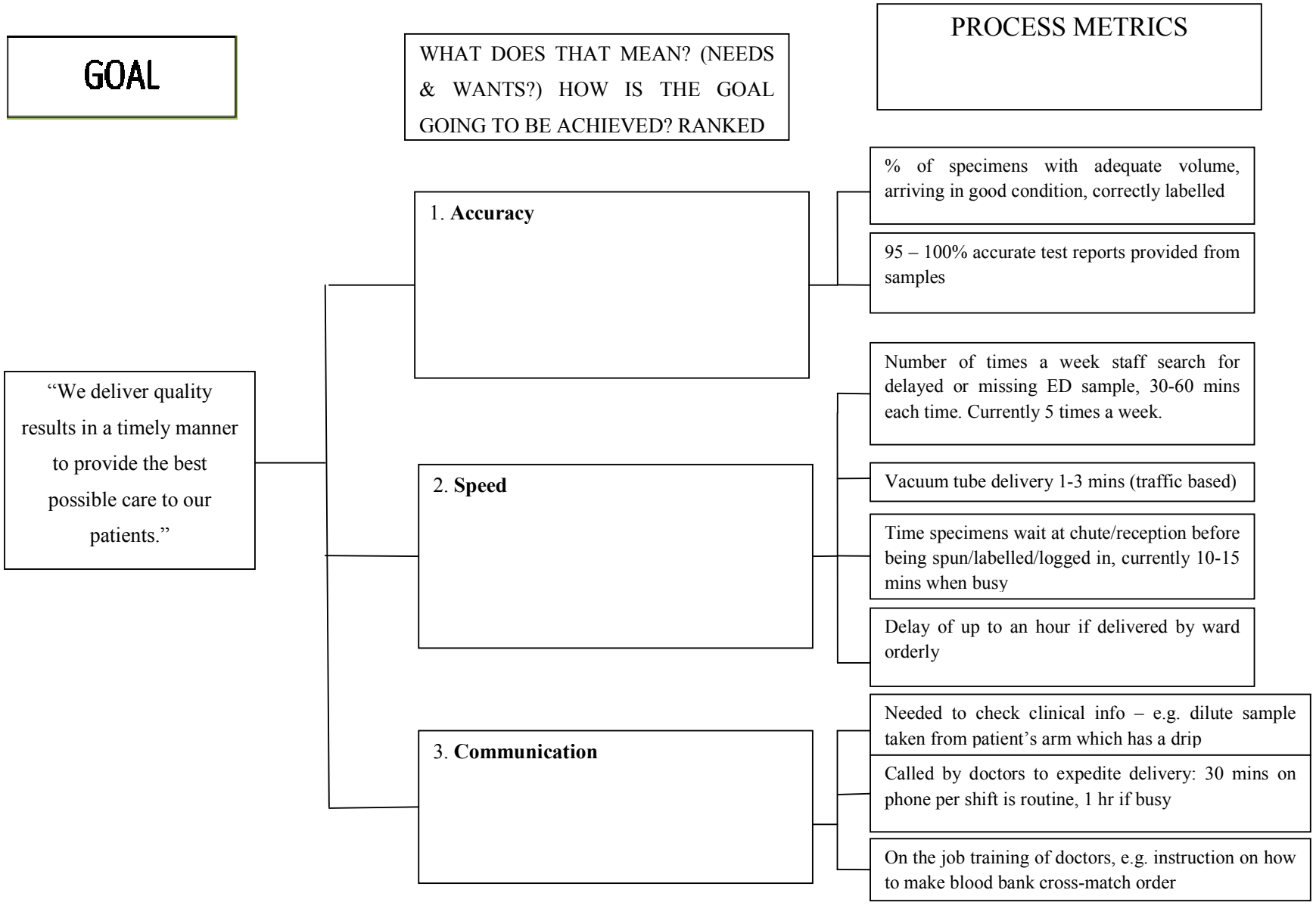
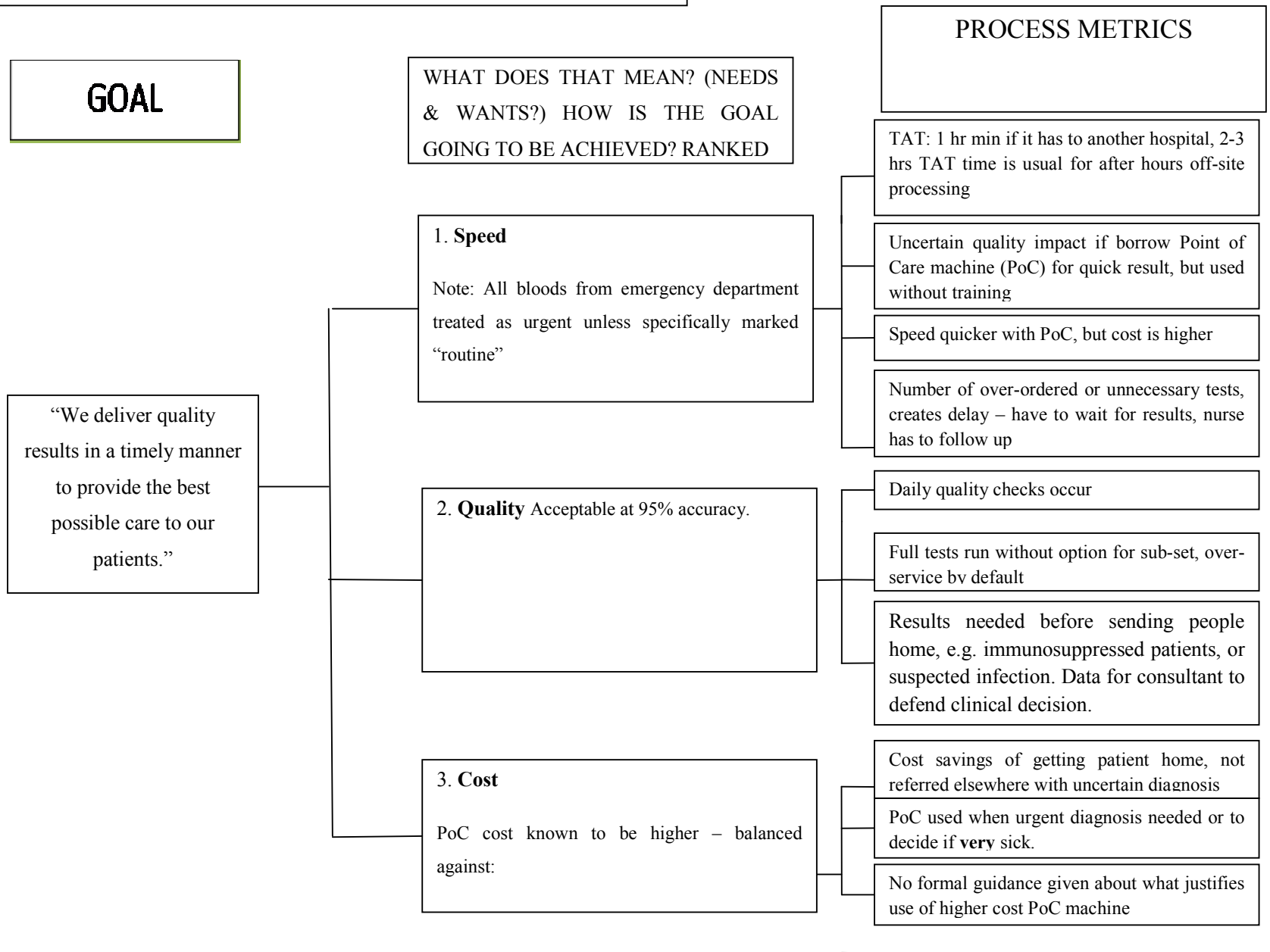
Figure 4: Nurse Practitioner - Emergency Department, VoC Critical to Quality Tree