

# QUALITY SYSTEMS AND PUBLIC HEALTH: BACKGROUND REVIEW

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## REVIEW OF MAIN APPROACHES AND SYSTEMS

### Approaches and Systems in the Quality Area – Health Sector

#### *Introduction*

The concept of quality in the personal health care area is not new. Although many of the methods employed in the quest for quality originated in other industries, the following quotation, attributed to Florence Nightingale, is still relevant:

*The ultimate goal is to manage quality. But you cannot manage it until you have a way to measure it, and you cannot measure it until you are able to monitor it. (1, p. 853)*

Over the last 30 years in particular, a number of approaches have been applied to health care in an attempt to assess and improve quality. These may be classified depending on whether they are (a) externally imposed or internally generated, or (b) the primary focus of the quality assessment activity is structure, process or output/outcome.

The literature on quality is replete with definitions and acronyms. The various approaches to quality neither have a single definition nor are universally understood. Further, debates about the advantages of one approach over another tend to emphasise differences rather than similarities.

It also needs to be borne in mind that seemingly different approaches may be linked. For example, accreditation at an institutional level is likely to require appropriate quality assurance or quality improvement standards to be in place.

Some of the main approaches or systems in the quality area considered relevant to public health are as follows.

#### *Quality control*

Quality control is the "application of statistical techniques to a process in an effort to identify and minimise both random and non-random sources of variation". (1)

Quality control developed in response to the need of industrial processes for a systematic approach to quality. It is concerned with inspection and defect detection. There is no guarantee of quality because 100 per cent inspection is not possible. Further, inspection itself is not an exact, error-free process and there is no attempt to improve the process to prevent defects.

In health care, quality control concerns validity, reliability and reproducibility. It is especially applicable in pathology laboratories, diagnostic imaging departments, the production areas of pharmacy departments, and central sterilising departments.

A more advanced state of quality consciousness is defect prevention - improving processes so that defects do not occur. Although the manufacturing sector has subscribed to defect prevention, initially there was no financial incentive to create the infrastructure and management strategies to support it. Only when companies began to develop systems effective enough to take action on quality control measurement have they obtained better quality and lower costs.

Although some writers see defect prevention or minimisation as an inherent feature of the quality control process, (1) most see the move from defect detection to defect prevention and the accompanying shift in focus to take in the process and the structure as well as the product (or the outcome), as the advent of quality assurance. (2)

### ***Quality assurance***

The Australian Council on Healthcare Standards (ACHS) defined quality assurance (QA) as:

*A formal process whereby the quality and appropriateness of patient care and/or departmental performance is documented and evaluated by the professional group responsible or within a multidisciplinary team.*

*The process involves a planned and systematic approach to monitoring and assessing the care provided, or the service being delivered, which identifies opportunities for improvement and provides a mechanism through which action is taken to make and maintain improvements. (3, p. 1)*

Traditionally, quality care is conceptualised as a function of three components: structure, process and outcome. Structure includes the physical plant, human resources and the organisational structure; process covers all aspects of delivering care and outcome focuses on the end result or the effect of care. (4)

Most writers agree that QA refers to activities that monitor the quality of the service but not all consider that QA necessarily includes mechanisms to improve the service. This is primarily because QA is seen by some as assessing performance against a predetermined standard. If the standard is met, there is no need for improvement.

In other quality assurance models, there is scope for improvement. The standards or criteria against which performance or quality of care is assessed are revised continuously, encouraging ongoing quality improvement. (5)

### ***Quality improvement***

Quality improvement is "the effort to improve the level of performance of a key process. It involves measuring the level of current performance, finding ways to improve that performance and implementing new and better methods". (6)

Several models of quality improvement have been developed independently to solve diverse problems in various business and industrial environments. Some of these models have been

applied to health care including continuous quality improvement (CQI), total quality management (TQM) and quality management (QM). (1)

The literature of quality improvement is confusing, comparing one model with another, or quality improvement with quality assurance and emphasising the advantages of one system and the disadvantages of another.

In its most general form, quality improvement has two components: a group of values about human and organizational performance and a set of problem solving techniques, each employed at a given stage of the problem solving process. There are four major principles of quality improvement:

1. Poor quality results from problems in the operation of the system, not from the people working within the system.
2. Everyone in the organization is responsible for quality and for identifying and solving problems.
3. Quality is seen from the viewpoint of the customer, where the customer may be external (e.g. the patient) or internal (e.g. the surgeon as a consumer of anaesthetic services).
4. Poor quality is costly and steps taken to improve quality will reduce costs.

While some writers clearly favour one system or approach over another, (7, 8) others see the various systems or approaches more as complementary, and advocate integrating the best aspects of each in the quest for better short and long-term health care outcomes. (2,9, 10)

### ***Benchmarking***

Benchmarking is one strategy in the quality improvement process. It is conceptualised as a continuous, systematic process for evaluating the products, services and work practices of organizations against the performance of other organizations (or departments or branches of the same organization) that have been recognized as representing best practice for the purpose of organizational improvement. (11)

The benchmarking focus may be internal, external or functional, comparing performance of a particular function or process with that of the best performer.

### ***Best practice***

"Best practice" is a term that is frequently used in the quality literature but seldom defined. One rather circular definition is as follows:

*Best practice is conceptualized as a comprehensive, integrated and participative approach to the continuous improvement of all aspects of an organization's operations. It represents innovative practices that contribute improved performance through leadership and shared vision, customer focus, knowledge of **best practices**, [emphasis added] resources and support systems, innovative human resource management, work organization, and effective and strategic external relationships. (11, p. 61)*

An article on finding and evaluating best practices health care information on the Internet states that "best practice describes a process or technique whose employment results in improved patient and/or organisational outcomes". (12) Kibbe and colleagues go on to suggest, inter alia, taking into account whether the alleged best practice is based on evidence and the quality of that evidence.

It may be more useful to accept that "best practice" is just what the words mean in everyday, language. What is more important is being able to evaluate whether a practice is "best practice". It may not always be possible to achieve what is accepted as best practice because of financial or other restraints. However, the "best, practice/least cost" paradigm is probably the most legitimate relationship between cost and effectiveness.

### ***Accreditation - organizational level***

At organizational level, accreditation is a process whereby an external agency recognizes that an organization has met certain predetermined standards. In the case of health care, some of the most well known accrediting agencies include the Joint Commission on Accrediting Health Care Organizations (JCAHO) in the United States, the Canadian Council on Health Facilities Accreditation (CCBFA), the Australian Council on Healthcare Standards (ACHS) and the King's Fund Organizational Audit (KFOA) in the United Kingdom. (13,14)

Currently, these agencies are involved in the accreditation of personal health care institutions (e.g. hospitals, nursing homes, day procedure centres, community health services) but not public health services.

The Community Health Accreditation and Standards Program (CHASP) provides a "national quality improvement program for primary health, community health and community services through the provision and implementation of national standards and a review process". (36)

Given that the CHASP system covers community health and community services, which can provide services at a community rather than individual level and often have a health promotion/disease prevention focus, CHASP appears to be more relevant to some aspects of public health than systems such as the ACHS Evaluation & Quality Improvement Program (EQuIP), which focus on personal health care institutions. However, as the findings from the survey described below support, it may not be entirely suitable for the public health sector as a whole, given its lack of experience and expertise in key elements of population health.<sup>1</sup>

### ***Clinical indicators***

In light of the perception that accreditation criteria emphasised structural and process standards over health outcomes and quality of care, bodies such as the JCAHO and ACHS have incorporated clinical indicators into the accreditation process to, inter alia, increase the clinical component of the process. In Australia, since 1989, the ACHS and professional colleges and associations have worked together to develop a number of clinical indicators for different specialty areas.

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<sup>1</sup> It is noted that the Quality Improvement Council (QIC), successor to CHASP at a national level, plans to increase the diversity of its expertise to cover areas not previously addressed by CHASP. Consequently, the QIC may, at a future time, be able to assist with developing an accreditation system for public health agencies, if that course were to be pursued.

*Clinical indicators are defined as measures of the clinical management and outcome of patient care. They are not exact standards against which hospitals must measure their clinical performance but rather are designed as flags, which can alert to possible problems or opportunities to improve patient care. They are a measurement tool to assist in assessing whether or not a standard in patient care is being met. (33)*

The findings of a survey in 1995 suggested that clinical indicators are being used in Australian hospitals to implement changes in clinical practice to improve the quality of patient care. (34)

### ***Service-specific accreditation systems***

There are examples of accreditation systems developed for specific services. For example, the *National Accreditation Requirements* sets standards for breast screening programs in Australia. These standards address all aspects of program organization and service delivery and call for "clearly defined quantitative performance indicators, comprehensive quality assurance processes, extensive data collection, relevant staff training and clearly designated roles for staff members from each discipline".

All services within BreastScreen Australia must undergo a process of accreditation to ensure they are operating according to the national programs guidelines. There is a three yearly re-accreditation cycle and each service is required to submit an annual data report in the intervening years.

The primary goal of breast screening programs is to reduce the morbidity and mortality from breast cancer. Because this goal cannot be achieved in the short-term, intermediate performance indicators have been adopted (the proportion of cancers detected within the group of women screened and the detection rate, of invasive cancers less than 10 millimetres in size). Attention is paid to aspects of program implementation (women's participation rate, accessibility of the program, standard of service organization and delivery) to maximise the likelihood that the program will achieve its long-term goal.

A different approach has been taken with respect to maternal and infant care services. Rather than establish a separate accrediting body, as in the case of breast screening programs, two sets of standards for maternal and infant care have been developed to supplement the programs of two organizations that are already involved in accreditation (the ACHS EQUIP program and CHASP).

These standards are still in draft form and are being trialed at six pilot sites.

### ***Accreditation - individual 'practitioner level***

At individual practitioner level, accreditation is more often known as registration or certification. It is a process whereby an external body recognizes that an individual has certain predetermined qualifications, experience, skills and/or knowledge.

In this context, it is noted that a number of medical colleges have moved to "continuing certification" or "recertification" systems. For example, all Royal Australian College of Obstetricians and Gynaecologists subspecialists are granted subspecialty certification for a five-year period. Continuing certification is dependent on earning a specified number of points by participating in various approved clinical, continuing education and quality assurance activities during the five-year recertification period.

Most if not all medical colleges and many other health professional bodies are developing or implementing programs for the maintenance of professional standards, regardless of whether they have instituted recertification systems.

The Australian Faculty of Public Health Medicine's Maintenance of Professional Standards (MOPS) program has been operating since March 1993.

To complete the program, Fellows must accumulate 500 MOPS points over five years by participating in the areas of continuing medical education, teaching and research, quality assurance and committee participation. It is necessary to participate in the areas of continuing medical education and quality assurance. The 500 points must include a minimum of 50 points from participation in quality assurance activities but up to 250 points may be claimed.

While programs such as the MOPS program do not constitute an accreditation system, they clearly contribute to the maintenance of high standards of public health medical practice.

### ***Auditing***

Auditing is the process of using criteria or standards for assessing the quality, effectiveness and outcomes of health care. It arose from a process of systematic patient chart audit and was the earliest form of quality assurance.

An audit may be prospective or retrospective. Increasingly, with the advances in information technology, most audits can be undertaken prospectively and the data can be readily aggregated to provide population health data.

To improve the quality of health care, an audit involves a structured review of practice against an agreed standard, implementing change if observed practice falls short of the standard, and re-observing practice. (3, 15)

### ***Regulation***

For the purposes of this report regulation is taken as control by any government-prescribed rule (e.g. legislation, regulation or ordinance) where "government" is intended to cover any level of government - Commonwealth, state/territory or local. Generally, regulation prescribes the minimum acceptable standard, whereas accreditation is presumed to define optimal standards.

Regulation differs from other mechanisms for assuring or improving quality in one important way: most mechanisms for assuring or improving quality are voluntary; failure to comply with standards prescribed by regulation can incur a legally imposed penalty.

### ***Risk Management***

Risk management is a process of identifying and minimising risk to patients, staff and facilities. (1)

Risk management may not always be thought of as a quality system. However, as the Quality in Australian Health Care Study exemplifies, risk management has an important role in improving quality of care. This study has reviewed over 14,000 admissions to 28 hospitals

and found that 16.6 per cent of these were associated with adverse events including disability, a longer hospital stay and, in 4.9 per cent of cases, death. The authors judge 51 per cent of the adverse events to have "high preventability".<sup>2</sup>

Leaving aside the controversies associated with the findings of this study, it does focus attention on the need for improved risk management processes in Australian hospitals.

Commenting on the findings and implications of the study, McNeil and Leeder (38) note that most mistakes result from factors such as deficient work organization, poor training or inadequate information rather than carelessness or indifference. In their analysis, it follows that the key to better risk management is to identify and correct patterns of errors and to establish processes to prevent their occurrence.

Clearly, preventing or at least minimising preventable adverse events in acute hospitals and elsewhere will improve the quality of care. Thus, any quality system will benefit from incorporating risk management principles, including at a population health level.

## **Approaches and Systems in the Quality Area – Other Sectors**

### ***Business and industry***

As indicated above, many quality approaches and systems employed in the health sector, including quality control, quality assurance and quality improvement, originated in other industries. Quality improvement strategies such as TQM and CQI are based on the industrial quality model developed in Japan in the 1950s and 1960s and adopted by companies in the United States and elsewhere in the 1970s and 1980s. (7,8) Benchmarking is said to have first been used by the Xerox Corporation to improve organisational performance through systematic identification and implementation of best practices. (39)

### ***Australian Quality Council***

The mission of the Australian Quality Council (AQC) is to "accelerate organisational improvement through the adoption of the management principles and practices that are reflected in the Australian Business Excellence Framework". (40) This framework provides a diagnostic and design tool for organizations to assess their own practices and performance.

The AQC particularly focuses on benchmarking and quality improvement strategies to assist organizations to improve performance.

### ***HACCP System***

The Hazard Analysis Critical Control Point or HACCP system (pronounced Hassap) is a process control system that identifies where hazards might occur at all stages of the food production process ("farm to fork"). The strength of the HACCP system is its ability to be individualised for specific food processing operations and, in turn, specific products. Each

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<sup>2</sup> Preventability of an adverse event was assessed as "an error in management due to failure to follow accepted practice at an individual or system level". The degree of preventability was scored on a six-point scale ranging from 1 = virtually no evidence for preventability to 6 = virtually certain evidence of preventability, and grouped into three categories: no preventability, low preventability and high preventability

individual processor must identify the potential food safety hazards or risks in his/her production process and define the steps or procedures to control or eliminate food safety hazards such as microbiological, chemical or physical contaminants. A basic premise of HACCP is that of prevention rather than inspection or end-product testing. (41,42)

HACCP was first used in the 1960s by the Pilsbury Company, which developed the system to ensure the safest and highest quality food possible for astronauts in the NASA space program. Thirty years later it is incorporated into the World Health Food/Food and Agriculture Organisation standard, is endorsed by the National Academy of Sciences and National Advisory Committee on Microbiological Criteria for Foods in the United States and the Codex Alimentarius Commission (an international food standard setting Organisation) and is required of all food businesses in Europe under an EC directive. There is increasing use of the HACCP system in Australia. (43,44)

### ***Systems Approach***

It has been suggested that the "systems approach" to quality, as represented by the work of Peter Senge, may mark a further, real development in quality thinking.

Peter Senge's book *The Fifth Discipline: The Art and Practice of the Learning Organisation* was first published in 1990. (45) Judging by the number of matches for the term "fifth dimension" on the Internet, this book has attained something akin to cult status in some quarters.

To engage in systems thinking - the fifth discipline - an organization must have four core disciplines:

- personal mastery,
- an understanding of mental models
- a shared vision, and
- team learning.

A "learning organization" is one in which people at all levels, individually and collectively, are continually increasing their capacity to accomplish the organization's collective purpose – whatever that may be. The more the organization's members increase their ability to learn collaboratively, the more they can accomplish and the better their performance.

Proponents of systems thinking as promulgated by Senge suggest that this approach has much to offer in the quality area generally, not confined to any particular sector (such as health). For example, without an understanding of how the whole organization operates, TQM can get lost in perfecting detail; within a systems framework, TQM strategies will be more effective.

In contrast, the quality literature, particularly that relating to the health sector, makes very little reference to "systems thinking" or a "systems approach". This is perhaps because there is nothing inherent in any quality assurance/quality improvement activities that is incompatible with such an approach.

## **PERCEIVED ADVANTAGES AND DISADVANTAGES OF DIFFERENT APPROACHES/ SYSTEMS IN THE QUALITY AREA**

As indicated above, some writers clearly favour one quality system or approach over another. However, examination of this literature suggests that, for example, the perceived advantages of the various models of quality improvement over "traditional quality assurance" often depend, in part, on how each approach is conceptualised.

It has been stated that external systems (e.g. accreditation, auditing) have limited success precisely because they are externally imposed and organizations perceive them as threats to autonomy and control. (16) Elsewhere, it is suggested that accreditation and external-auditing systems have contributed to improved quality of health care. (13,17,18)

Donabedian postulates that the effectiveness of quality assurance, a term he uses in its broadest sense, depends on an "interaction between the method and the situation in which [the method] is to be implemented.... The study of effectiveness becomes, then, a study of contexts, and the interventions appropriate to each of these.". (19)

Rather than debate the advantages and disadvantages of the various quality approaches and systems, it may be more useful to consider what is the "best method" in a given situation. It may also be useful to think of the various approaches as complementary and to consider how they may be integrated. Some suggestions along these lines are as follows.

- Quality improvement builds on the concepts and methods of quality assurance. Therefore, rather than the two functioning in parallel, quality assurance is likely to evolve into quality improvement. Nevertheless, valuable aspects of quality assurance should be retained and integrated into the quality improvement process. (2,9, 10)  
These included activities more traditionally associated with quality assurance such as:
  - monitoring individual practitioners for possible evidence of poor judgement or questionable competence;
  - case review of sentinel events such as unexpected morbidity or mortality;
  - appropriateness of orders for medication or procedures; and
  - significant complications of treatment
- It has been suggested that some 85 per cent of quality problems are caused by system flaws and are, therefore, the province of quality improvement techniques. The peer review process provides the primary mechanism for addressing the 15 per cent of quality problems that are due to individual performance. (20)

Each approach has unique strengths and limitations. Effective links need to be made between peer review and quality improvement initiatives to achieve the "100 per cent solution".

- There are considerable advantages in developing an integrated quality system that formally links risk management, quality assurance and quality improvement. Together they can facilitate a more balanced focus on structure, process and outcome. (1)

For example, an adverse event may be investigated using principles of risk management. The results of this investigation may initiate a quality assurance/quality improvement project to eliminate or reduce causes of such an event, including monitoring to assess the effectiveness of the project. Utilisation studies may be required to ensure that sufficient resources are allocated to solve the problem.

- There is a need to incorporate consumers' perspectives in (a) the definition of quality and (b) the assessment and improvement of quality. Accreditation bodies such as the JCAHO in the United States have a role in meeting this need and in disseminating standardised quality information that meets consumer needs. (21)

## **QUALITY AND PUBLIC HEALTH**

An extensive literature review found a number of articles that applied quality assurance or quality improvement strategies to specific public health domains (e.g. screening for breast cancer, drug treatment programs and food safety). However, very little appears to have been written about quality initiatives in relation to public health per se.

In 1988, the Institute of Medicine (IOM) reported on the state of public health in the United States. (22) Turnock and Handler suggest that this report separates two distinct eras of public health performance measurement in the United States. (23)

Prior to 1988, the services provided by public health agencies had been viewed as public health's "functions". The IOM report defined three core functions of government public health agencies: assessment (monitoring the health of the American people), policy development (promoting the development of scientifically sound public health policy) and assurance (guaranteeing the benefits of public health for all citizens).

From this perspective, services should be viewed as the output of public health's core functions rather than as "functions" in themselves. With this shift in focus, it became possible to direct attention to the operational aspects of the core functions in ways that would allow performance to be improved. As a consequence, it became possible to measure inputs (e.g. staff, budget), operational aspects of the core functions (practices or processes) and to relate these to outputs provided (e.g. services) and, ultimately, to health status in the community. (23)

In 1990, national health objectives were established for the year 2000 including, for the first time, an objective for the coverage of the population by an effective local public health system. Objective 8.14 called for 90 per cent of the population to be served by a local health department (LED) by the year 2000. (24)

The Center for Disease Control's Public Health Practice Program Office stimulated a number of research projects related to the new Objective 8.14. These projects sought to develop and test public health performance measures related to the core public health functions. A framework using 10 organisational practices as operational definitions of the core functions was used to evaluate local public health practice. (25-31)

The core functions and 10 organisational practices are listed as follows: (24)

- *Assessment*
  - Assess the health needs of the community
  - Investigate the occurrence of health effects and health hazards in the community
  - Analyse the determinants of identified health needs
- *Policy development*
  - Advocate for public health, build constituencies, and identify resources in the community
  - Set priorities among health needs
  - Develop plans and policies to address priority health needs
- *Assurance*
  - Manage resources and develop organisational structure
  - Implement programs
  - Evaluate programs and provide quality assurance
  - Inform and educate the public

Miller and colleagues undertook a longitudinal survey of 14 health departments using a protocol with 81 indicators linked to the three core functions and 10 practices. (24) On the basis of the results, the departments could be distinguished according to performance in relation to the core functions and practices.

A shortened version of the survey protocol was subsequently tested with 370 LHDs and shown to correlate reliably with the longer version. (28) While further research was required to refine and possibly shorten the protocol, it was concluded that "public health practice can be defined, measured, and monitored and that currently widely accepted definitions of core functions and practices have utility. Measurement and surveillance tools for these functions and practices are available and tested" (p. 24).

Reviewing this research and that of their own group, Turnock and Handler (23) concluded that despite the efforts of the post-IOM report period, "we have neither a clear nor a complete picture of the status of public health practice at the end of the twentieth century" (p. 271). They went on to suggest that "it has been easier to measure aspects of the public health system than to develop consensus as to what these measurements tell us about the effectiveness of public health practice" (p. 174).

They further commented:

*The preference for counting inputs and outputs (services) has inhibited efforts to gain national consensus on surveillance strategies and methods to assess progress towards Objective 8.14, which focuses on core function-related performance... There are still no nationally agreed upon methods and tools for its measurement. Therefore, only limited information is available as to how close the nation is to its achievement. (P. 275)*

They noted that performance standards for other health organizations have become commonplace but in public health such standards appear to still be in an early stage of development. They continued:

*The establishment of a national accreditation or certification initiative for LHDs through either the national public health organizations or the JCAHO has not been given serious consideration.... A voluntary national accreditation program for LHDs may be the most realistic approach to promoting widespread adoption of practice standards related to the core functions. (p. 275)*

Turnock and Handler concluded that a conceptual framework, useful measurement and surveillance tools, a national objective for the public health system and the means for monitoring performance over time were all in place. "However, the commitment from the public health practice community and the national leadership to get the job done remain elusive" (p. 280).

Studnicki (35) has also undertaken a project that aimed to develop a framework for a national surveillance system for LHDs that would help to determine whether the department was effective in carrying out the core functions of public health categorised by the Center for Disease Control Public Health Practice Program Office (see above).

He developed the Comparative Performance Reporting (CPR) system to assess the performance of LHDS. The CPR System database comprised four data sets:

1. health status indicators used to describe the state of a community's health (e.g. infant mortality per 1,000 live births);
2. contextual modifiers - demographic, socio-economic or health resource characteristics that may effect the health status indicators of a particular area;
3. operating efficiency indicators - ratios of units of resource input to units of service output; and
4. effectiveness indicators - a select set of outcome indicators derived from two types of health status indicators: those describing the community's health status and those describing the impact of LDH programs.

Although this system needed further refinement, Studnicki believed it would allow LHDs to evaluate their performance in terms of improving the health status of the community and the efficiency of their operations over time. It would also allow them to compare their performance with their peers - LHDs of similar type.

One paper was found that considered the application of TQM in public health agencies. (32) The authors considered that TQM has considerable potential "as a method to achieve and exceed standards quickly and efficiently". They concluded that TQM, "along with Model Standards and the APEX-PH protocol,<sup>3</sup> represent complementary methods for assuring that excellent services are provided to the community".

They further suggested that public health agencies should explore the potential of TQM within their organisational structures. Guidelines for applying TQM in a public health environment were confined largely to aspects of management rather than the provision of public health services.

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<sup>3</sup> The Assessment Protocol for Excellence in Public Health (APEX-PH) is said to "provide a methodology for systematically assessing departmental operations relative to meeting standards". (32, p. 258)

It was noted that this paper was published in 1992 and did not appear to have generated any further papers on the subject of TQM or any other quality improvement strategies in relation to public health.

Leaving aside the one article on TQM in a public health environment, the literature reviewed concentrates on public health's core functions. With this shift in focus, it is said to now be possible to measure inputs (e.g. staff, budget), operational aspects of the core functions (practices or processes) and to relate these to outputs provided (e.g. services) and, ultimately, to health status in the community (outcome).

The NPHP is developing a statement of core functions for public health in Australia. This is along similar lines to, but different from, the core functions defined in the IOM report. These core functions could be used as a basis for a framework within which to assess input, process, output and outcome.

However, it should be borne in mind that the United States literature relates to "public health" in a very narrow sense and is confined to local health departments. Thus, the US experience has some relevance to Australia in terms of its general approach but any framework for assessing public health performance in this country would be very different in the detail, given that "public health" is defined much more broadly and any framework should be applicable to the different levels of the public health system (national, state and regional/local).

## **SUMMARY**

In this paper the main approaches and systems in the quality area have been reviewed in relation to the health sector and other sectors such as business and industry. The limited literature on quality initiatives in relation to public health has been examined and it is suggested that the general approach taken in the United States may have some relevance to Australia.

Perceived advantages and disadvantages of different approaches and systems in the quality area have been considered. It has been suggested that, rather than debating the advantages and disadvantages of the various quality approaches and systems, it may be more useful to consider what is the "best method" in a given situation. It may also be useful to think of the various approaches as complementary and to consider how they may be integrated.

For a quality assurance/quality improvement system to succeed it is imperative that those involved support the process, be they executive decision makers, line managers, service providers or service consumers. Support, in turn, depends on those involved having a sense of "owning" the process. This can only be achieved if they have input into developing the system to be put in place.

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