REVIEW ARTICLE

Does Audit Improve the Quality of Care?

Areti Tsaloglidou, RN, MSc, PhD
Nurse "AHEPA" Hospital of Thessaloniki, Greece
Clinical Collaborator Alexander Technological Educational Institution of Thessaloniki, Greece

Corresponding author:
Areti Tsaloglidou, RN, MSc, PhD
Address: Agathoupoleos 25, 40 Ekklisies, 54636 Thessaloniki, Greece
Tel.: +302310200378 Fax: +302310531483 Mobile: +306948377619
E-Mail: atsaloglidou@hotmail.com

ABSTRACT
BACKGROUND: The quality of health care and quality assurance are concepts which have been established for many years. Audit nowadays is adopted as a means of developing high quality care.
AIM: This study aims to identify the perspectives of audit in practice and its relationship to quality assessment and assurance, quality improvement, and clinical effectiveness.
METHODS: There were used the databases Medline and Cinahl to identify studies related to clinical audit. These databases were searched up to May 2009.
DISCUSSION: Audit is used as a tool to assure and assess the quality of patient health care. It is also an educational tool as it creates a lot of opportunities for professionals to think about practice and to learn from the experience of others.
CONCLUSIONS: Although that audit is a powerfull and useful tool to improve and evaluate the quality of health care, on the other hand there are many barriers that make its use difficult in everyday practice.

Key Words: Clinical audit, quality of care, quality assessment, quality assurance, clinical effectiveness.

INTRODUCTION

The quality of health care and quality assurance are concepts which have been established for many years (Degenberg, 1994). Florence Nightingale was a pioneer of identifying and setting standards and criteria to evaluate and improve the quality of care provided to patients in a systematic way (Morrell and Harvey, 1999).

In "an endless quest of maximum quality at minimum cost" a number of new methods and tools have been developed and used by nursing groups and other health care professionals in order to assess and evaluate health care (Stenving and Karpiuk, 1991). Audit and feedback interventions usually evaluate past or current clinical practice in relation to the practice of peers or established standards (Jamtvedt G et al, 2006). Audit has been adopted as a means of developing high quality patient care and it is easy to be implemented in every country, even in resource-poor countries as minimal resources need to be used (Kongnyuy, Mlava and Broek van den, 2008).

What is audit?

There is a common agreement between health care professionals and managers that audit is a "good thing" whilst they also recognize its complexity (Shaw, 1990). There are many definitions of audit that highlight its complex nature and incorporate its different meanings. The "restricted " definitions refer to an audit which measures the quality of care whilst the "broad" ones measure quality and also change the practice when it is required (Kogan and Redfern 1995). The most common and holistic definition of audit is provided by the Department of Health (1989), in working paper 6 (Medical audit) of the White Paper

"Working for patients":"Clinical audit is a systematic critical analysis of the quality of medical care, including the procedures used for diagnosis and treatment, the use of resources, and the resulting outcome for the patient", (p.3).

The above definition refers to medical audit, but in its formal evidence on the White Paper to the Social Services Select Committee, the Royal College of Nursing emphasized that to be effective the audit process must be multi-disciplinary and must also include nursing audit as a main and vital part of it. Now, the term "clinical audit" is used as a "short hand" expression for the auditing of all professional activities in health care (Hancock, 1989, p.8). Multi-professionals clinical audit can be more effective in practice as it incorporates the skills of all health-care staff. It is useful to cite other definitions of audit too, which describe its features. Humphrey (1990) stated the following characteristics of audit, (p.5): *(see* box l)

Box1

- defining standards, criteria, targets or protocols for good practice against which performance can be compared;
- systematic gathering of objective evidence about performance;
- comparing results against standards and/or among peers;
- identifying deficiencies and taking action to remedy them;

monitoring the effects of action on quality.

Another definition of audit that sets out its fundamental principles was published in 1994 by the NHS Executive as "The evolution of clinical audit" and it suggests that audit should: *(see* box 2)

By searching the literature we can find a number of essential definitions about audit. The central idea places audit as a tool to improve the quality, effectiveness and efficiency of care provided to patients by measuring the existed standards and changing attitude against them when required. To improve the quality the findings of an implemented audit have to be sent to all the health care professionals who had taken part in it with reccomendations for improvements in their day to day work (Novo and Jokic, 2008).

The most common metaphor related to audit is the cycle, which is known as clinical audit cycle (CAC). While there are differences between the stages of clinical audit cycle which are used by several health care professionals the main idea remain the same. In the first version of cycle the audit is described by Kogan and Redfern (1995, p.42) as a cyclical process which comprises six stages. The first stage is to identify a problem or issue, the second to establish standards and goals, the third to assess or measure quality, the fourth to identify the change needed, the fifth to implement change and finally at the sixth stage to monitor the effect of change *(see* fig.l).

Another approach to clinical audit cycle is described by Morrell and Harvey (1999, p.l0) and the cycle presented here consists of four stages. Firstly, best practice is defined; secondly, best practice is implemented; thirdly, monitoring and comparing against best practice is carried out and finally action is taken for improvement (see fig.2).

It is obvious that the two cycles have similarities and express the same aim in another way. The most important characteristic of the clinical audit cycle highlighted in the literature is that the improvement of quality of care is a repeated procedure where the cycle is continued to ensure progress (Irvine D. and S., 1991).

In this case the cycle is replaced metaphorically by a spiral, which indicates a "never-ending quality improvement" (Norman, 1995, p.42).

It is also significant that clinical audit cycle is closely related to other cycles, like the nursing process cycle, the standard setting cycle and the change cycle (Norman, 1995). As such , it is easily understood by health care professionals.

Box 2

- be professionally led
- be seen as an educational process
- form a part of routine clinical practice
- be based on the setting of standards
- generate results that can be used to improve outcome of quality of care
- involve management in both the process and outcome of audit
- be confidential at the individual patient/clinician level be informed by the

views of patients/clients.

(as cited in Morrell and Harvey, 1999).

QUALITY ASSESSMENT AND ASSURANCE RELATED TO AUDIT

The terms of quality assessment and quality assurance are closely connected with each other. Quality assurance refers to activities that have to be taken to improve the quality of care and quality assessment reveals these activities (Irvine S. and D., 1985).

Clinical audit is included in the term of quality assurance as it is one of the tools used to measure and improve the quality of care (Kogan and Redfem, 1995). It is evident in the literature that the key for quality assurance and consistent delivery of high quality health services is the appropriate organisation of the health centre environment (Weeramanthri T et al, 2002). Quality assurance is described by top-down and bottom-up models. The top-down approach, which is characterized as "traditional" (Harvey, 1991) uses a "generic instrument" conducted by external assessors (Nolan and Scott, 1993).

The bottom-up system is described as a "dynamic" approach administered by practitioners themselves and seems to have a lot of advantages as the changes are derived from the participants themselves (Harvey, 1991).

Quality assessment, as mentioned before, is the process which is used to establish and evaluate the methods and activities that lead to the improvement of the quality of care.

For quality assessment to be implemented three approaches to auditing are used: structure, process and outcome (Curtis and Simson, 1985). Structure involves organizational features: surroundings, equipment, resources and the appropriate staff.

It is very important for the staff member who will take on to implement the audit cycle to have proper training, supervision and protected time (Mercel et al, 2006). Process is the audit that refers to the quality of care provided to patients by health care professionals (Irvine S. and D., 1991).

Outcome audit identifies the changes to the patient's health care status after nursing contribution to it. It therefore measures the clinical effectiveness of nursing care (Curtis and Simson, 1985).

It is obvious that audit is used as a tool to assure and assess the quality of patient health care. Nursing audit, specifically, is closely linked to the terms of quality assurance and assessment as a continuous effort is being made by nurses to measure the effectiveness of their care and to

evaluate and change attitudes towards standards when it is required (Morrell and Harvey, 1999).

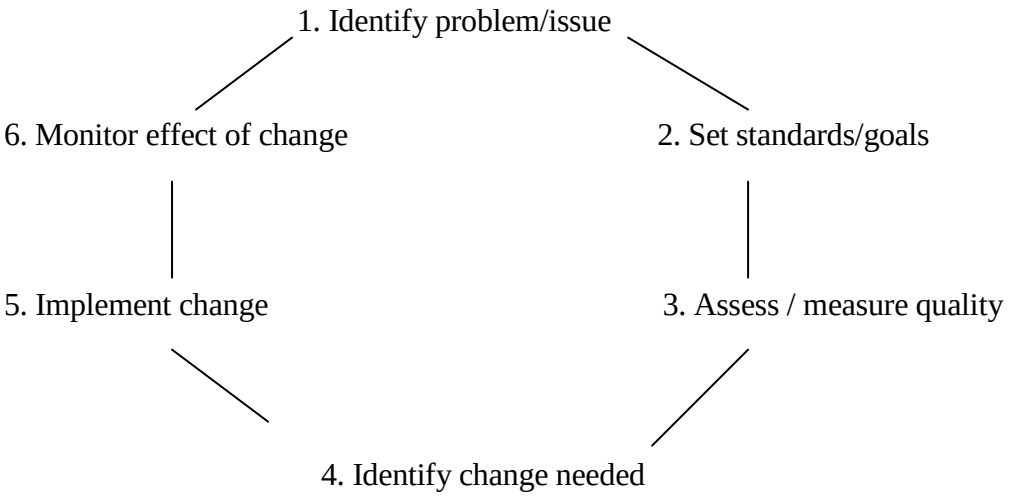

Figure 1: The Audit Cycles

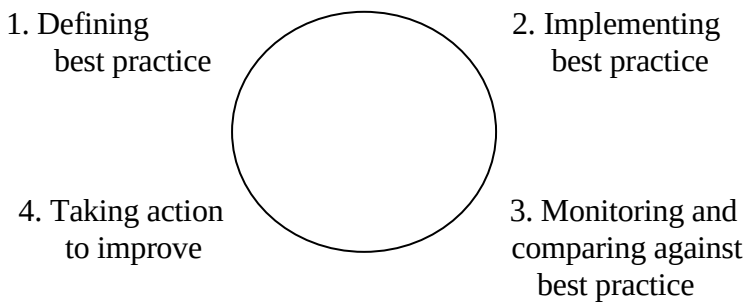

Figure 2: The four main stages of clinical audit

AUDIT AND CLINICAL EFFECTIVENESS

Clinical effectiveness is a broad topic which refers to evidence-based practice and the appraisal of it. Clinical audit, guidelines, research, education and training must be used and combined with changes to organizational structures and to attitudes of health care professionals in order for clinical effectiveness to be achieved. What an audit can do and how the outcomes influence practice are evaluated by the term "clinical effectiveness" (Morrell and Harvey, 1999).

Clinical effectiveness is not easy to achieve in practice. Grange et al (1998) describe an audit that took place on the Vascular Surgical Unit of the Leeds Infirmary (UK) as an example of an effort

made by nurses to improve clinical effectiveness through the development of a multi disciplinary health-care record for patients with grade 2 critical lower-limb ischaemia. The clinical effectiveness in practice was difficult to achieve.

Nursing staff had great difficulties proving the value of this intervention in practice and identifying standards and criteria. It was also difficult for the outcomes of the process to be measured. Clinical audit is only a part of the achievement of clinical effectiveness and cannot be sufficient by itself. It has to be combined with other methods to change the existing situation.

WHO SHOULD SET THE STANDARDS?

In clinical audit it is essential that many professionals are involved in assessing the quality of care and in making changes that lead to the improvement of the quality of care. The question that comes up is who is responsible for setting standards, who should be involved and who has the qualifications to measure and evaluate the results (Avis, 1997).

At this point, it is important that two extremes of audit perspectives be considered. At one extreme, there are studies that do not consider changes in the quality of health care, but only aim to provide management information and to reduce cost. At the other extreme, there are studies that are interested in measuring quality without caring about cost at all (Buchan et al, 1996).It seems important to strike a balance which takes both quality and value for money into account. Both health care professionals and managers have to be involved in a successful audit, as it is a cost-effective procedure.

Increasingly, another question emerges, which is related to patients' involvement in the audit process. It is essential to listen to patients' ideas to understand their needs and expectations. Avis (1997) comments that "the more we listen to patients the less we can assume that we know what is best for them and this is the best way against paternalism"(p.87).

The most common method for incorporating patients' views are surveys of patients' satisfaction. The above method, while it is a good way to obtain patients' views, has a lot of limitations including the non-uniform nature of patients' expectations. The use of qualitative methods are proposed by Avis (1997) to be an appropriate way of implementing change in health care as they promote a closer relationship with the patients.

STRENGTHS OF AUDIT

Audit is used, as has already been identified, to improve the quality of care by measuring the results of action and designing changes. Change can involve everyone: patients, health-care professionals, managers and support staff (Degenberg, 1994).

The benefits to patients are many when they are involved directly in the process and they can express their needs and expectations. Audit is also important to patients as it is used to improve the quality of delivering care and evaluate the results of the changes and set higher standards. Robinson (1995) mentions some examples directly connected with patients such as changes in discharge procedures, more effective appointment systems and changes in procedures of record keeping.

The benefits of audit are also apparent for health care professionals as it reduces frustration, reduces organizational and clinical error, improves communications between professionals and secures effective medical defense through risk avoidance (Irvine S. and D., 1991, p.5). An audit is not only a tool for monitoring change in clinical practice, but also an educational tool (Wagarach et al, 2001).

It is a means for professionals to develop their skills, to consider clinical issues and to have a closer relationship to other professionals as a team (Morrell and Harvey, 1999). It is also considered that audit has educational value as it creates a lot of opportunities for professionals to think about practice and to learn from the experience of others.

The quality improvement process is based on action learning principles with the aim to encourage the participants to share learning at various levels of the organisation (Bonomi et al, 2002). Audit indicates the

existing key sources of information (such as CINAHL and Cochrane databases for nurses) and the ways that professionals can access them (Grange et al, 1998). It can create self-confidence among professionals who are involved in it and also a sense of accountability (Robinson, 1995).

One of the most important benefits of audit is that it improves efficiency. Cost and quality have a strong inter-relationship and we cannot divide them. It has been argued that the first aim of audit must be quality with efficiency as a secondary (Shaw, 1990).

Managers and health care professionals operate to ensure that the cost is relevant to the effects. Audit makes the most appropriate use of resources (Irvine S. and D., 1991). As the improvement of health care is a cost-effective procedure, audit is revealed to be a very useful tool in management.

Another advantage of audit recognized in the literature reviewed is that it has an impact on organizations. It is considered to be significant for political reasons as it is part of clinical governance and an "organization wide" approach to management and improvement of health care (Morrell and Harvey, 1999).

LIMITATIONS OF AUDIT

Although audit leads to the improvement of quality of care it is also accepted that it has many limitations. The major barrier to audit is the time needed to complete the cycle. The professionals who are involved in audit complain that they do not have the time to do it and also that they cannot find the time to discuss its progress (Kogan and Redfem ,1995).

Another problem in implementing audit is finance. As an audit cannot be always funded, problems are created which are related to the cost. Lack of information technology is in many cases a basic constraint on clinical audit. Sometimes the systems are not appropriate for the specific work and other times health care professionals have no access to computerized facilities (Kogan and Redfern, 1995).

Related to the above problem is a lack of expertise. Technical support and support staff are required in order for audit to be implemented successfully, while professionals themselves need further training (Kogan and Redfern, 1995).

There are also doubts about audit among some health care professionals who believe that audit is an obstacle to their autonomy and is not a fair method of appraisal. This view is particularly expressed by people who were involved in a multi-professional audit, who felt that they were dictated to a senior professional.

Equity and respect between professions is often difficult to achieve (Kogan and Redfern, 1995). In a multi professional audit there are also difficulties in sharing information between professionals as in many cases they work across different organizations. Sometimes nurses are not confident enough to take part in multi-professional audits; they feel unsafe and they prefer not to participate (Morrell and Harvey, 1999).

According to the literature, barriers to changing practice as a result of audit can also be the usual standards of practice clashing with the new standards. Patient's expectations are sometimes different to the new practice and this can create problems for the implementation of audit (O'Brien et al, 1999). Many barriers and practical constraints can appear during audit's implementation and in practice the aim is difficult to be met.

There is a paradox here: while audit is a tool to promote clinical effectiveness in practice, there is no evidence proving it. Some research evidence is supported in the Cochrane review of audit. The reviewers conclude that: "when audit is effective, the effects appear to be small to moderate, but potentially worthwhile. Those attempting to enhance professional behavior should not rely solely on this approach" (O'Brien et al, 1999,p.l). It is obvious then that in practice the benefits of audit are limited.

CONCLUSIONS

It is undoubted that audit would be a powerful and useful tool to improve and evaluate the quality of health care if its limitations and constraints were absent. In practice, however all the above barriers

exist and make the daily use of audit difficult in an everyday routine. Accountability demands that we provide evidence in practice of the value of tools we use to reach an aim. On the other hand, many advantages of audit are being increased every day as audit is used by health care professionals and especially by nurses more and more. The continuing use of audit will give us the opportunity to evaluate in detail its strengths and limitations and to gain a powerful tool to improve the quality of health care.

REFERENCES

Avis M (1997) "Incorporating patients' voices in the audit process".*Quality of Health Care*,6: 86-91 .

Bonomi AE, Wagner EH, Glasgow RE, VonKorff M (2002) Assessment of chronic illness care (ACIC): a practical tool to measure quality imrovement. *Health Serv Res*, 37: 791-820.

Buchan J, Seccombe I, Ball J (1996) *Caring Costs Revisited.* The institute of employment studies, Brighton.

Cooper N (1998) Audit in clinical practice: evaluating use of a nutrition screening tool developed for trauma nurses. *Journal of Human Nutrition and Dietetics*, 11: 403-410.

Curtis B, Simpson L (1985) Auditing: a method for evaluating quality of care. *Journal of advanced nursing administration*,15 (10): 14-21.

Dengenberg K (1994) *Clinical Audit in the Nursing and Therapy Professions.* Department of Health, London.

Department of Health (1989) NHS *review, "Working for Patients "* , Working paper 6, p.3, London.

Grange AR, Renvoize EB and Finder JM (1998) Introducing clinical effectiveness to nursing practice: not to easy! *Clinical Effectiveness in Nursing*, 2: 98-102.

Hancock C (1990) Clinical audit: "Can it work for patients?". *Senior Nurse*,10 (7): 8-10.

Harvey G (1991) An evaluation of approaches to assessing the quality of nursing care using (predetermined) quality assurance tools. *Journal of advanced Nursing*, 16: 277-286.

Hugles J and Humprey C (1990) *Medical audit in general practice: a practical guide to the littérature.* King Edward's Hospital Fund for London, London.

Irvine Donald and Sally (1991) *Making sense of audit.* Radcliff Medical Press LTD,Oxford

Jamtvedt G, Young JM, Kristoffersen DT, O'Brien MA, Oxman AD (2006) Does telling people what they have been doing change what they do? A systematic review of the effects of audit and feedback. *Quality and Safety in Health Care*, 15: 433-436.

Kogan M and Redfern S (1995) *Making use of clinical audit.* Open University Press, Buchingam- Philadelphia.

Kongnyuy EJ, Mlava G, Broek N van den (2008) Criteria-based audit to improve a district referral system in Malawi: A pilot study. *BMC Health Serv Res*, 8: 190.

Kozlowski D (1998) Is audit a task for nurses? *Nursing Times*, 94 (27): 54-55.

Mercel SW, Sevar K, Sadutshan TD (2006) Using clinical audit to improve the quality of obstetric care at the Tibetan Delek Hospital in North India: a logitudinal study. *Reprod Health*, 3:4.

Morrell C and Harvey G (1999) *The Clinical Audit Handbook.* Hartcourt Brace and Company Limited, London.

NHS Executive (1994) "The Evolution of clinical audit" in Morrell C and Harvey G *The Clinical Audit Handbook.* Hartcourt Brace and Company Limited, London.

Nolan M. and Scott G (1993) Audit: an exploration of some tensions and paradoxical expectations. *Journal of Advanced Nursing*, 18: 759-766.

Norman I (1995) Making a start on clinical audit: cycles and spirals. In Kogan, M. and Redfern, S. *Making use of Clinical Audit.* Open University Press, Buchingham-Philadelphia, p.41-54.

Novo A and Jokic I (2008) Medical Audit of Diabetes Mellitus in Primary Care Setting in Bosnia and Herzegovina. *Croat Med J*, 49(6):757-762.

O'Brien T (1999) Audit and feedback versus alternative strategies: effects on professional practice and health care outcomes. *The Cochrane Library*,3: 1-10.

Robinson S (1995) The benefits and constrains on clinical audit. In Kogan M and Redfern S *Making use of clinical audit.*

Open University Press, Buchingham-
Philadelphia, p.81-105.