Clinical audits – a concept for their implementation in Switzerland

R. Treier[1], W. Zeller[1], Ph. R. Trueb[1]
[1]Abteilung Strahlenschutz, Bundesamt für Gesundheit, Bern
Email: reto.treier@bag.admin.ch

Introduction

The use of ionizing radiation in medicine has increased enormously in the past few years. Annually worldwide, more than 3'600 million X-ray examinations are performed, more than 37 million nuclear medicine procedures are carried out and more than 7.5 million cancer patients are treated by radiotherapy [1]. Due to these impressive numbers and the fact that there exist no dose limits for patients it is of particular importance to fulfil the two basic principles of radiation protection – justification and optimization. While in the past much effort has been made to optimize radiological procedures, the aspect of justification has been almost completely neglected. This is critical since recent publications have shown that up to one third of all diagnostic examinations are not justified [2, 3]. The International Atomic Energy Agency (IAEA) estimates a dose reduction of 50 % by eliminating all unjustified radiological procedures.

Clinical Audits allow a systematic and continuous assessment of processes in diagnostic radiology, nuclear medicine, and radiotherapy that are performed during the clinical pathway of a patient. Thereby, unjustified processes are identified and eliminated and justified processes are optimized. This finally results in a substantial improvement in patient care and a reduction of both patient doses and health care costs. Since 1997, the member states of the European Union are obliged to carry out Clinical Audits in accordance with their national procedures [4]. To provide guidance on how to implement Clinical Audits in practice a guideline was developed by a project team consisting of members of different professional radiological associations and from different contries [5]. In Switzerland, Clinical Audits are not yet statutory but will be implemented in the fully revised legislation on radiation protection. In the meantime, Switzerland adopts international recommendations and guidelines.

The aim of this project is to develop a concept for the implementation of Clinical Audits in Switzerland.

Material and Methods

The organizational structure of Clinical Audits in Switzerland is illustrated in Figure 1. The key position in that organization is filled by a group of experts. These experts are representatives of the stakeholders involved in the radiological processes such as radiologists, nuclear medicine professionals, radio-oncologists, medical physicists, radio-pharmacists, radiographers, and members of insurers and patient organizations. The group of experts is provided with the required authority by the Federal Office of Public Health (FOPH). Its tasks are manifold: to define the guidelines for good clinical practice, to plan and coordinate audit programs and to instruct and advise the auditors.

In practice, Clinical Audits are carried out by a team of auditors or by a professional audit company. Auditors should ideally be qualified, experienced and independent of the audited hospital. The formation of the team and the total duration of the audit depend on the complexity of the process to be audited. Typically, an audit lasts 2-5 days and covers the overall assessment of the radiological procedure. Data are collected and treated as strictly confidential since confidence is a basic prerequisite for a successful audit. The results together with recommendations of potential optimization methods will be summarized in a report which is presented and discussed at the end of

the audit with the representatives of the hospital. The report will also be sent to the group of experts and the FOPH for their information. Potential requirements concerning the optimization methods must be fulfilled by the hospital within a certain deadline. The FOPH only regulates in case of disagreement.

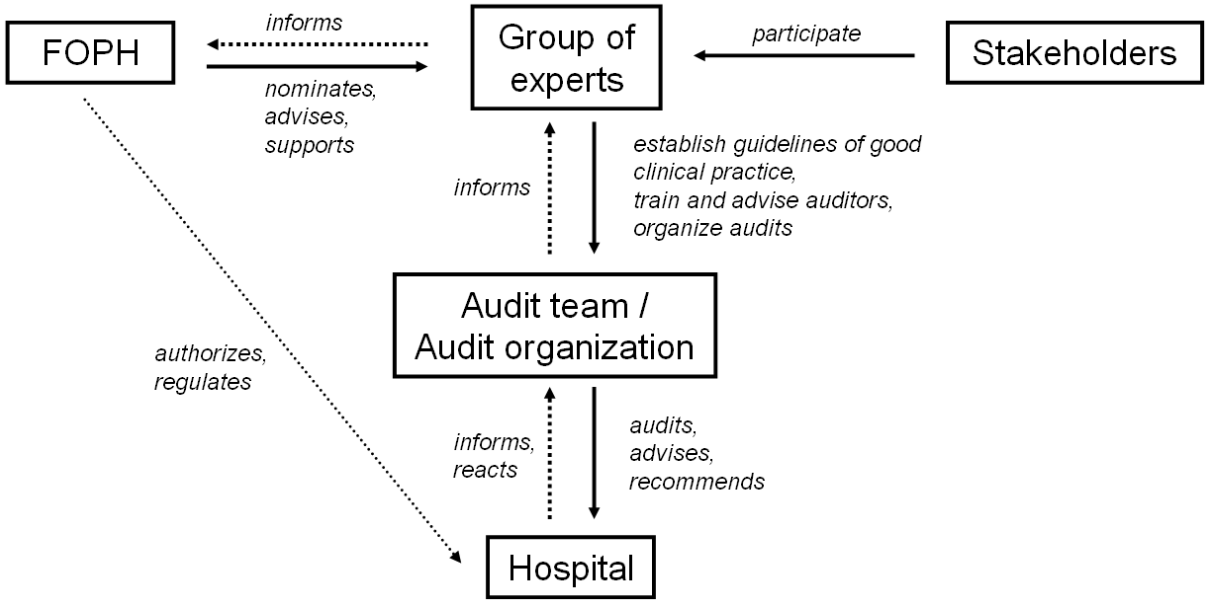

Figure 1. Schematic representation of the Clinical Audit organization. Audits are organized by a group of experts and carried out by an audit team or a professional audit company. The Federal Office of Public Health (FOPH) regulates only if needed.

Results

A successful implementation of Clinical Audits in Switzerland results in an Audit cycle as shown in Figure 2. An audit cycle always starts with the selection of the radiological process of interest according to specific criteria, for example processes with high potential for quality improvement, processes generating high doses, risks, or costs, or processes with existing guidelines. After the process has been selected, standards of good clinical practice must be defined by the group of experts. Thereby, already existing guidelines and recommendations of professional associations could provide a basis for Switzerland. When the audit was performed and the data collected the results are compared with the standards. In case of serious deviations from the standards recommendations are proposed to optimize the radiological process. A plan of action is developed describing the responsibilities and tasks. After a certain time period of less than five years the process will be re-audited. If in the meantime the local practice has changed this must be taken into account by modifying the standards of good clinical practice. Ultimately, with each audit cycle, quality in patient care improves.

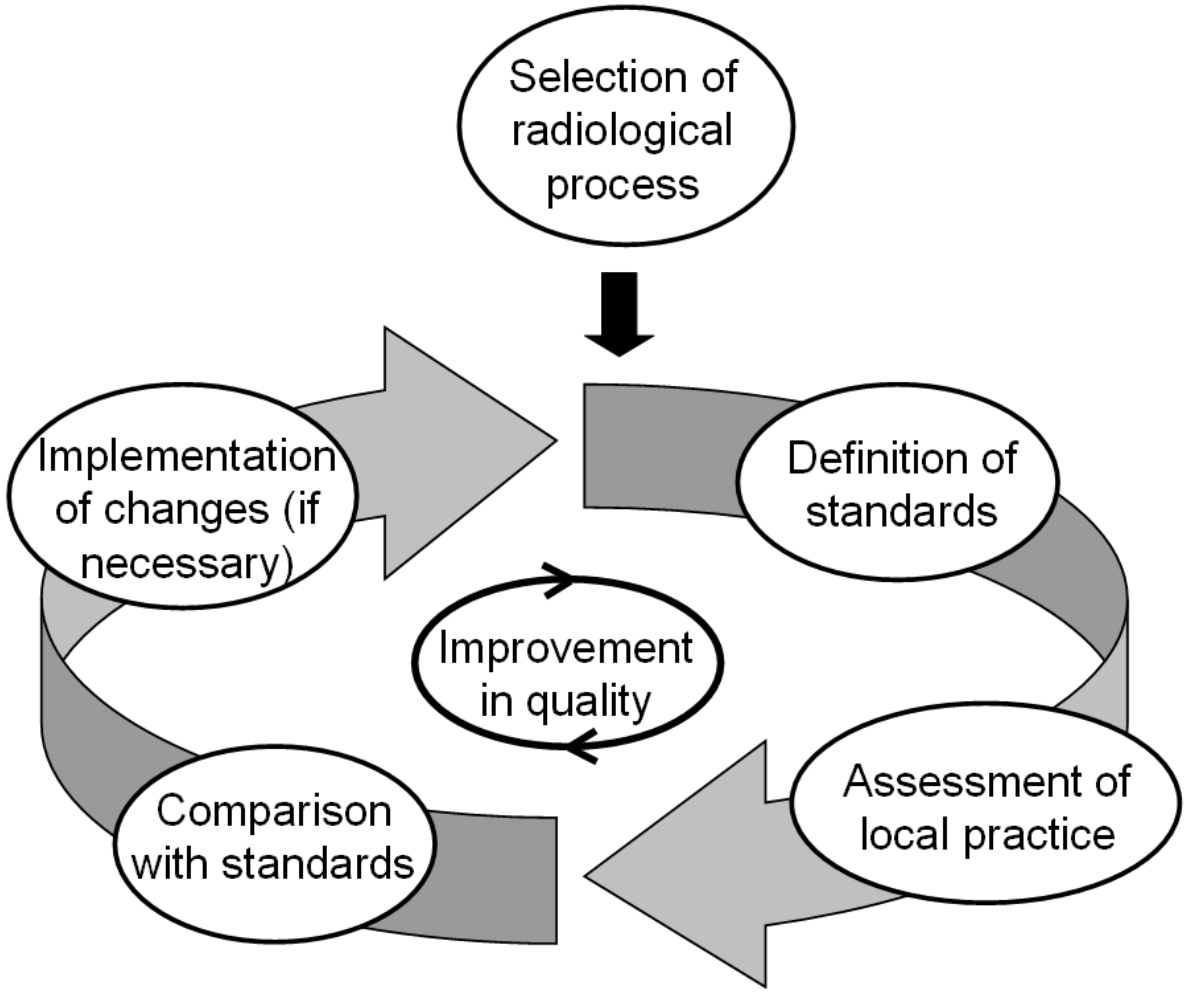

Figure 2. Audit cycle consisting of the selection of a specific radiological process together with the definition of the guidelines for good clinical practice, assessment of the local practice, comparison with the standards, implementation of changes when necessary, and re-auditing after a certain time.

Discussion

The continuous increase in the frequency of medical radiological examinations using ionizing radiation (and thus the rise of accumulated patient doses and health care costs) pose a big challenge to all the involved stakeholders. Clinical Audits prove to be an essential tool to increase significantly quality in patient care by identifying and eliminating unjustified radiological processes and optimizing justified radiological processes. However, a successful implementation in Switzerland is only feasible if hospitals are aware of this problem and are willing to participate constructively in Clinical Audits. In times of increased competition between hospitals it is in their own interest to provide the best possible quality in patient care.

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