Audit in Public Health Medicine

A Draft Discussion Document

Prepared by
Dr Mary Cronin
Dr Tony Holohan
Dr Maire O’Connor
Dr Philip Donaghy

for

The Research and Education Committee
of
The Faculty of Public Health Medicine
of
Royal College of Physicians of Ireland
Introduction

This discussion document, on the topic of audit in public health medicine, was developed by a sub-committee of the Research Committee of the Faculty of Public Health Medicine of the Royal College of Physicians of Ireland.

The principles upon which audit in public health medicine is based include those of health gain and social gain as set out in the 1994 Department of Health strategy document, "Shaping a Healthier Future". Quality of care is one of the three key principles of the health strategy. The document is also underscored by Maxwell's principles of effectiveness, efficiency, equity, acceptability, appropriateness, accountability, accessibility and relevance.

Public health doctors must apply the principles of audit to the practice of public health medicine, with the objective of implementing change and raising standards of practice. Black says that public health medicine must put its own house in order by reviewing its own performance and that to do anything less while entreating clinical colleagues to undertake quality assurance would be tactless and foolhardy.

The aim of audit in public health medicine, as defined by the U.K. Faculty, is to contribute to improvement in the health of the population by improving the standards of practice of public health physicians. There has been an increase in the amount of literature relating to public health medicine and audit and many public health physicians are considering or attempting to implement audit in their practice. Audit presumes the examination of significant aspects of work, consideration of methods of accomplishing it more efficiently and a presumption of action on what is learned.

The role of public health is being redefined and accountability has become more formalised and more precise. Extra remuneration is dependent on satisfactory performance evaluation in many cases. The changes are also being driven by several high profile incidents and outbreaks in recent times as well as the possibility of litigation if the actions or responses of Departments of Public Health Medicine are not based on models of best practice which have been the subject of evaluation and audit within the department.

The "essence of audit" has been defined as colleagues reflecting on their work systematically, critically and openly to enable them to agree on how to do it better and check that the improvements occur. Audit has been only one of the methods of introducing improvements in the standards of professional work and other methods include schemes for staff appraisal, accreditation, efficiency reviews, resource management, risk management, quality circles and "total quality management". These may also provide models for attaining what is called, the "essence of audit" and public health doctors should actively explore these methods as alternatives to audit.

There are specific challenges in relation to audit in public health medicine and this paper outlines different approaches which have been taken in other countries in relation to the development of audit within departments of public health medicine.

The objectives of this document are

1. To set out current thinking in relation to audit in public health medicine, having reviewed the literature on the subject.

2. To inform current opinion and generate debate among public health doctors in relation to audit in public health medicine.

3. To facilitate those who wish to carry out audit.

4. To make recommendations for the future development and implementation of audit in public health medicine.
Definitions

The 1994 Department of Health strategy document has defined clinical audit “as the systematic review of the manner in which health care is provided”.

Medical audit has been defined as “the 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 and quality of life for the patient”.

This was amended slightly to make it more relevant to public health medicine as “the systematic, critical analysis of the quality of public health medicine, including methods of identification and quantification of health needs, the use of resources and the resulting influences on both the provision of health/health related services and the health of the population”.

Challenges

General Challenges

Specific challenges for audit of public health medicine which are not experienced in most other disciplines have been identified:

1. The scope for improvement in health is often beyond the control of the individual public health medicine practitioner.
2. Public health practitioners work as part of an inter-disciplinary team and it is artificial to separate them out for the purposes of audit.
3. The time periods over which changes occur are very long compared to clinical practice and this favours process rather than outcome based audit.
4. Public health medicine posts vary widely in their content.
5. It may be difficult to specify standards because public health medicine work is non-routine and the “product” or outcome often unclear, particularly in the short term.
6. Variations in practice may result from many sources such as poor practice, limited resources or inappropriate standards.

Challenges Specific to Ireland

In Ireland public health doctors, work in the Departments of Public Health Medicine, in health boards or universities, in community care or in other statutory or non-statutory agencies. Doctors working in community care are frequently involved in the delivery of clinical services such as child health surveillance. In addition, doctors in community care also have a dimension to their work, which is related to the public health function. They are involved in areas such as communicable disease investigation and control, environmental health, health promotion, health service planning and evaluation of services. Doctors working in community care areas may also be involved in specific projects, many in collaboration with the departments of public health medicine. The Hickey Report Community Medicine and Public Health, The Future, recommended that the Senior Area Medical Officer in a community care area should be required to maintain a close functional working relationship with the Departments of Public Health Medicine. The abolition of the post of Director of Community Care and Medical Officer of Health will facilitate the development of good working relationship between doctors working in community care areas and specialists in the Departments of Public Health Medicine. There is a challenge related to the necessity to undertake audit of the clinical services delivered by public health doctors while also undertaking audit of the more conventional work which requires a different approach and time frame.
Audit Theory

The Audit Cycle
Fundamental to the process of audit are the concepts of comparison, feedback and repetition. Audit involves a cycle of interlocking steps. Firstly, the “gold” standard is explicitly defined, based on available evidence, knowledge or opinion. Secondly, actual practice is observed and compared with the standard. Thirdly, any necessary change is implemented. Finally, to complete the cycle, practice is observed again to see if the standard has now been attained.

When starting out to audit an activity, the audit cycle can be entered at any point, depending on circumstances. Whatever the entry point, audit groups will wish to establish standards and guidelines wherever possible using the methods outlined in figure 2.

The Audit cycle, which is well recognised, may also be seen as a double loop audit cycle which emphasises a reflective or educational component. The model of audit may also be viewed as a spiral, with the circular component of the audit cycle combined with the ever-increasing standards with the completion of each loop of the spiral. It has been argued that the usual clinical (cyclical) model of all medical audit is not suitable to the strategic role undertaken by those in Public Health and by implication that other models of audit such as the double loop or the spiral or others should be considered.

Approaches to Audit
The approach to audit may be formal and discrete or informal and integral. There are advantages and disadvantages with each approach. Rigorous focusing on meetings can limit the scope of audit because it can lead to over attention to specific skills such as report writing or time management. These can then cause difficulty in sustaining the formal audit cycle through more substantial topics. Reliance on the integral approach, with less dependence on the discipline of a more formal audit process, can then cause difficulty in sustaining audit beyond the natural tendency to be self critical as practitioners. The most beneficial audit fosters the integral approach but also has regular formal audit meetings to discuss methods and results, plan further audits and provide continuing support to the process by relating audit to departmental work.

Theoretical models that have been applied to audit include the Aberdeen Audit Matrix and the Nuffield Audit Guidelines. The former involved the development of indicators of quality for public health medicine. These indicators can be used in a departmental audit to derive a percentage measure of practice quality, which can be compared either with the maximum score obtainable or with the scores obtained by other health boards. In the latter, public health physicians in the Mersey region produced an
audit pack intended to offer guidance to assist the process of audit in public health medicine. For each of ten topic areas, there are guidelines and a pre-audit checklist. The guidelines specify good practice in such activities as public health annual reports, health promotion by public health physicians, childhood immunisation, health care needs assessment, training in public health, use of time by public health physicians, alliances for healthy public policy and the work of consultants in communicable disease control.

In the USA, the theoretical approach to examination of practice is somewhat different and the term audit is rarely used. The emphasis is placed on how well the local population is served by the public health irrespective of the provider. This leads to a more holistic approach to the assessment of performance. The public health functions against which performance is measured in the USA are more generic than in the UK e.g. advocate, assess and evaluate versus immunisation screening and child health.14,15

Methodology

Introduction
The act of examining the work of a group can result in an improvement of their work (Hawthorne Effect). The World Health Organisation (WHO) have recognised three broad methods of inducing change as part of the quality assurance/audit cycle. These are:

1. **Educational**
   - Refresher courses, continuing education, re-examination

2. **Organisational**
   - Task Reallocation; Re-organisation of environment; Provision of resources

3. **Rewards and sanctions**
   - Promotion/demotion, pecuniary incentives and sanctions

Organisational Audit
This is the process of applying organisational standards to a health facility in order to improve the quality of services provided. Audit belongs to all health care employees, and because it can impact to a significant extent on the quality of clinical care, organisational audit should be an integral part of audit in public health medicine.16

Obtaining the views of consumers of the PHM services
Donabedian has argued that consumers have an important role to play in quality assurance. Customers may be direct customers such as managers, agencies and other professionals whereas the populations of individual residents within the region are the indirect customers. This implies that the recipients of direct clinical care are one step removed from the providers of public health services in many cases but such things as communicable disease control provide exceptions. Many studies in the area of consumer satisfaction with public health services have included other Health Professionals as the consumers. Other such studies have included telephone surveys of Health Professionals and the usefulness of data sent to them.16,17

The assessment of consumer satisfaction as part of the audit of public health medicine provides the potential for improvement in public health practice and could stimulate and develop an “Audit Culture”. Figure 5 outlines some of the techniques that have been used to assess consumer satisfaction.17

<table>
<thead>
<tr>
<th>Patient Satisfaction and User Involvement Techniques</th>
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<tr>
<td>Involvement in Health Service Planning</td>
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<td>Patient Satisfaction Questionnaires</td>
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<td>Focus Groups</td>
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<tr>
<th>Public Health Audit involving the Direct Customer</th>
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<tr>
<td>GPs as direct customers of PHM departments</td>
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<tr>
<td>Annual Reports (service to many direct customers)</td>
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<tr>
<td>Performance at meetings (other members = direct customers)</td>
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<tr>
<td>Training audit (Trainee = direct customer)</td>
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<td>Outbreak investigation (Microbiology dept. = direct customer)</td>
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<tr>
<th>Generic Techniques to Address Customer Satisfaction</th>
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<tr>
<td>Service Quality Instrument developed in US</td>
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<tr>
<td>Can be adapted for use anywhere</td>
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<tr>
<td>Measures functional quality rather than technical quality</td>
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<tr>
<td>Widely applied</td>
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**Consumer Impact**
In the USA, the generic core functions of public health are examined in terms of how well they meet the needs of the local population. The population is the focus for the examination of performance which looks at how well the public health function is carried out in terms of what should be provided rather than what is actually provided. This approach calculates performance ratios and produces a simple graph which allows comparisons over time and comparisons across the core public health functions. It may be considered as part of a regular audit which would then be done from both the perspective of the population (consumer) and the public health department (supplier).14,15

**Project Management**
The measurement of achievement in public health medicine can be problematic and Bowie suggests that this problem could be overcome by a process of management by objectives, where each task is broken down into its component objectives and these objectives are then prioritised and put on a time scale. The protocol for projects in a department should be written and the goals clearly set out. Progress towards these goals can then be formally assessed. As discussed above, the suitability of the cyclical model of audit as traditionally described, has been questioned.16

**Self Assessment by Peer Review**
This is a technique, which enables an individual to look at aspects of work, and, in a structured setting, make decisions about how to improve it. It usually takes the form of sharing an experience with a group of peers and then, through a series of clearly defined steps, accepting constructive criticism and deciding upon an action plan. The technique has been described in detail elsewhere.18,19 In Mersey, peer review was used to begin the Audit cycle and it included a protocol for peer review audit while the Northern Region used a pilot project of peer review to audit the annual reports of the directors of public health.16 Self-reflective audit, the practice of rigorously evaluating one’s own work, has also been identified as an important feature of audit. Self-assessment or peer review audits are two distinct forms of audit and in different areas and at different times, one may be more suitable than the other. It should be borne in mind that different aspects of work are suitable for different types of audit. Furthermore, different personalities and organisations may influence the type of Audit. What is important, however, is that audit is at least initiated.20

**Evidence Based Audit**
This method of Audit is widely used in Australia, The Netherlands, and North America and in various medical & surgical specialities. Local performance and practice is measured against explicit best practice criteria. This allows variations from expected performance to be quantified, comparisons with other units to be made and improvements measured over time.21

**Criterion Based Audit**
Many public health audits use a criterion or standard-based approach and these have been widely documented. A distinction between criterion, the scale against which performance is measured, and standard, the point on a scale below which performance is unacceptable, has been drawn.3 The usefulness of these approaches probably varies with the areas of practice being audited.22,23

**Audit of Exceptional Events**
This form of audit involves the presentation of a single issue (such as the occurrence of vaccine preventable disease, the management of incidents like water borne or food-borne illness etc.) and its subsequent analysis by a group of peers, ideally within the framework of agreed professional standards. It is frequently used to audit the management of outbreaks of communicable disease.24 Outside the realm of public health medicine, it has been used in surgical audit and other areas.25

**Review of Public Health Input into Services**
This form of audit reviews the public health input into a given service to determine the scope for improvement in this input. Examples of this form of audit, where the input of public health into particular services has been amended, have been published in the literature. They include such things as the facilitation of other services or the giving of BCG.26,27
Conclusions

There are specific challenges for audit of public health medicine which are not experienced in most other disciplines. Change is the crux of the audit cycle. Achieving change is not easy. Much of the work involved in audit is actually the implementation of change and improvements. Different approaches and time frames are needed for different organisations and projects in relation to audit of public health medicine. There must be support for and commitment to audit at senior level within Departments of Public Health Medicine, community care programmes in health boards and academic institutions. Public health medicine must take on the challenge of audit in order to implement change and raise standards of practice with the objective of contributing to improvement in the health of the population.

Implementation/Recommendations

1. The Faculty should pay a major role in the monitoring, evaluation, support and supervision of the process of professional audit within the speciality.

2. Audit will not work if it is imposed, there must be a "bottom up" approach. Wide consultation must take place to encourage a sense of ownership of audit. The research committee of the Faculty of Public Health Medicine might facilitate this consultation process by: convening a meeting to allow input into the discussions from the wider public health audience or by inviting written submissions to identify topics and projects for audit activities.

3. The Faculty of Public Health Medicine should facilitate the exchange of information in relation to experiences of the pros and cons of audit, to encourage others to persevere even when there appear to be few immediate benefits. This could be done through, workshops, training days on audit, the faculty newsletter etc.

4. Training and continuing education in public health should place greater emphasis on audit. For example, higher specialist training could include explicit reference to trainees' involvement in a specific range of audit activities.

5. Those involved in audit should have on-going training in the necessary skills and techniques required for its successful execution. Public health physicians running audit meetings should have had training in group management skills and should consciously use those skills in actively managing group processes.

6. The heads of public health teams must take ownership of audit. They should foster and maintain the appropriate departmental or team culture and ensure that they endorse the conduct of audit by building it into the department's work programme and by their own example.

7. A planned programme for departmental audit meetings is important and that where possible collective setting of departmental objectives should be a prior step to auditing the central tasks of public health medicine.

8. Departments of Public Health Medicine should actively explore the linking and facilitating of their audit activities with other departments and other relevant agencies.
Appendix 1

Audit Topics
Areas of practice within public health medicine that can be subjected to audit can be divided into process topics and core function topics. These topics are laid out in table 3. A detailed list of topics for audit in public health medicine in Ireland can be found in appendix 2.

Figure 6 Topics for Audit in Public Health Medicine

<table>
<thead>
<tr>
<th>Core Function Topics</th>
<th>Process Topics</th>
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<tbody>
<tr>
<td>Service Plans</td>
<td>Communication</td>
</tr>
<tr>
<td>Communicable disease control</td>
<td>Between Departments e.g. meetings, diaries</td>
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<tr>
<td>e.g. meningitis control, TB contact tracing</td>
<td>correspondence</td>
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<tr>
<td>Occupational Health</td>
<td>With other specialties</td>
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<tr>
<td>Immunisation</td>
<td>How it is given</td>
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<tr>
<td>Health needs assessment</td>
<td>Acceptability of advice</td>
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<tr>
<td>Child Health</td>
<td>Impact of advice</td>
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<tr>
<td>Health promotion</td>
<td>Annual Report and Written Reports</td>
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<tr>
<td>Time Management</td>
<td>Training and Professional Development</td>
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<td></td>
<td>Continuing Medical Education</td>
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<td></td>
<td>Research Activities</td>
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<td></td>
<td>Senior Registrar Training</td>
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<td></td>
<td>Meetings, symposiums, journal clubs etc.</td>
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</table>

Figure 7 Three Generic Core Public Health Functions linked with ten specific public health practices as used in the USA15,16

1. Assessment
   This is the regular systematic collection, assembly, analysis and dissemination of information on the health of the local community. Assessment practices consist of:
   - Assess the health needs of the community
   - Investigate the occurrence of health effects and health hazards
   - Analyse the determinants of identified health needs

2. Policy Development
   This is the development of comprehensive public health policies using a scientific knowledge base in decision making. Policy Development practices consist of:
   - Advocate for public health, build constituencies and identify community resources
   - Set priorities among health needs
   - Develop plans and policies to address priority local health needs

3. Assurance
   This is the assurance to the population that services necessary to achieve agreed goals are provided by encouraging actions of others (private or public), requiring action through regulation or providing the service directly. Assurance practices consist of:
   - Manage resources and develop organisational structure
   - Implement programmes
   - Evaluate programmes and provide quality assurance
   - Inform and educate the public


27. **Twardzicki M.** Audit in Public Health: Final Report. North West Thames Regional Health Authority. North West Thames Regional Health Authority, 1994