Improving Health Outcomes

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The aspirin project in Liverpool

Geographical Area covered: Liverpool
Focus: Case studies focusing on the use of national indicators

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Editorial comments on how case study is linked to improving health outcomes: (also published in Volume 1)

Abdul and Forrest describe a project to increase the use of aspirin in people at high risk of coronary heart disease and stroke. Liverpool has one of the worst mortality rates in the country for these conditions and has marked ward level mortality variations. They used many of the lessons learnt from the FACTS project in Sheffield for the use of this evidence based highly cost effective treatment.

Abstract (also published in Volume 1)

Background: Liverpool has one of the worst mortality rates in the country for coronary heart disease and stroke. There is good evidence of the effectiveness of aspirin in reducing mortality from heart disease and stroke, the message was simple and the treatment inexpensive. It was therefore decided to choose this area for implementation.

Aim: Secondary prevention of heart disease and stroke by using prophylactic low dose aspirin for high risk patients in Liverpool.

Objectives:

- To raise awareness in primary care teams about secondary prevention with aspirin;
- To assist primary care teams in the identification of high risk patients;
- To increase the awareness of the public about the use of aspirin for patients who have heart disease or who have had a stroke;
- To audit the use of aspirin for high risk patients in primary care;
- To increase the uptake of an effective intervention to reduce morbidity and mortality from coronary heart disease and stroke.

Implementation plan: A seminar was held for primary care team members during September 1995, to explain the aims and objectives of the project and to encourage them to take part. An ‘aspirin pack’, (containing posters, stickers, a summary of the research evidence, and model letters to send to patients) was developed to help primary care teams to understand the issues (positive benefits brought about by the daily use of low-dose aspirin) and assist them in identification of high risk patients.

A full time worker was employed from September 1995, to further raise awareness within primary care teams, and to assist staff within general practice to develop a system for identification of high risk patients. Each participating practice was required to audit the numbers of high risk patients currently taking aspirin at the start of the project, and then to repeat the audit six months later. Alongside this, baseline market research was undertaken during August 1995, by an independent market research company. Seven hundred people were interviewed (100 people in each neighbourhood cluster, and stratified by age and sex to match Liverpool’s population), to assess their knowledge of the use of aspirin in secondary prevention of heart disease and stroke. Results indicated that only 10% of the population within Liverpool were aware of this, therefore it was decided to conduct a media campaign. This consisted of newspaper articles, radio interviews, poster campaigns within supermarkets, chemists, local library’s, leisure centres, Community Health Council’s, GP surgeries and local community centres. This was monitored by market research six months later. This showed that public awareness had remained at 10%.

Utilising information and drawing upon experience from the Sheffield FACTS project (Eve et al. 1994) has allowed for a
relatively quick, and effective implementation of the Liverpool aspirin project.

Sixty-two percent of all Liverpool general practices are participating in the aspirin project, and have provided baseline information. To date, 30% of those participating practices, have returned their six month re-audit figures which illustrate an increase in the mean percentage figures of high risk patients on aspirin, from 59% (baseline figures) to 79% (re-audit figures). For those practices which provided the original baseline information, and which have been in the project for a year, uptake is now 88%.

Main outcome indicators:
I. Uptake of aspirin for patients with angina, history of myocardial infarction or stroke or peripheral vascular disease at commencement of project, and 6 months later;
II. Prescribing (PACT) data for 75mg aspirin;
III. Hospital episodes for myocardial infarction and stroke;
IV. Mortality rates and Standardised Mortality Ratio for Ischaemic Heart Disease (ICD 410-414);
V. Mortality rates and Standardised Mortality Ratio for cerebrovascular disease (ICD 430-438).

Introduction:

Why this clinical area was chosen:

Further information that was required:

Sheffield FACTS project had provided very useful background information: on setting up the project; the aspirin pack; patient leaflets; and information sheets all of which made it easier to embark on the project. The aim of FACTS (Framework for Appropriate Care Through Sheffield) project was to create a framework for changing clinical behaviour on a city-wide basis. Liverpool was acting as a control for the aspirin prescribing rates (PACT data) for the Sheffield FACTS Project until September 1995, because Liverpool and Sheffield are similar in population and cardio-vascular mortality rates, making comparisons between the cities meaningful.

Health outcome indicators (including SMRs for ischaemic heart disease (ICD 410-414) have assisted in summarising the mortality experience of heart disease and stroke within Liverpool. However, more detailed practice level information was required to identify the number of patients ‘at risk’ of MI, and stroke, and whether or not they were being prescribed aspirin.

During June and July 1995, the Liverpool Primary Care Data Project was commissioned to collect baseline information on the prevalence of angina and to describe the extent of aspirin use for prevention of heart attacks, strokes and vascular deaths. This baseline information (using angina patients only as an indicator) was presented at the launch of the Aspirin Project by Liverpool MAAG (now Primary Care Audit Group) in September 1995, and indicated that only 40% of angina patients were currently receiving aspirin (Crilly 1995). (The Liverpool Primary Care Data Project was set up to collect, analyse and present meaningful information from general practice, about the burden of ill health and the use of health services in the City. The project is based on seven general practices, one in each of the neighborhood planning clusters within Liverpool (research has shown that the population covered by the practices in the project is representative of the population of Liverpool as a whole).

Following the launch of the aspirin project, an initial baseline audit was undertaken in each practice that had agreed to participate in the project (62% of practices contacted have so far agreed to participate). Baseline data included:

- Number of high risk patients;
- Number of high risk patients already taking aspirin;
- Number of patients not taking aspirin but who are on an anti-coagulated regime;
- Number of patients where aspirin would be of benefit;
- Number of patients not taking aspirin, but are contraindicated.

(Contraindications to the use of aspirin were those patients who were known to be allergic to aspirin, had a history of GI bleeds, had dyspepsia in the last three months, had duodenal or stomach ulcers in the last year, had a history of NSAID-induced asthma, or had haemophilia). Few difficulties have been encountered in obtaining this data, although practices did not have enough detail about contraindications on their computer. A quantitative evaluation of aspirin prescribing levels (initially 75mg aspirin), using PACT (Prescribing Analysis Cost) data is currently in progress. PACT data was examined before the onset of the project and will be monitored quarterly; this will allow the tracking of the changes in aspirin prescription over time (see table).
Follow up audits within general practices will illustrate how many people have been successfully transferred onto long term aspirin use. PACT data for participating practices in Liverpool will also be compared with non participating practices.

Although PACT data will prove useful in demonstrating the results of the project, one must be cautious of interpreting a twenty percent increase in prescribing of aspirin, as a twenty percent increase in the taking of aspirin. Taking this into account, a number of practices have agreed to partake in a qualitative survey. By utilising telephone surveys, they are questioning patients who have been prescribed aspirin to assess the extent to which the patient is actually taking the aspirin that has been prescribed. Also being ascertained, is the method by which patients are acquiring aspirin, whether this is via prescription or via other sources.

Data validity studies:

Initial baseline data gained from Liverpool general practices compares favourably with national studies (Hargreaves et al. 1995). The initial baseline information gathered will however, require cautious interpretation, as this relies on information recorded in patients’ notes. Such records may not entirely represent the care that has actually been provided to ‘at risk patients’; in particular, medical advice to take aspirin may not have been recorded in the notes. There is also the possibility that patients may be purchasing regular aspirin for themselves without the GP’s knowledge.

This project, thus far, has raised issues regarding the quality of data within many practices. Whilst some practices are fully computerised, there were a substantial number that did not maintain full clinical data for each patient. Although a large percentage of Liverpool’s practices are computerised, few staff members possess in-depth knowledge of Information Technology, or are fully acclimatised in the use of their medical systems. Few practices have a person specifically assigned for data input and assimilation. In many practices, receptionists or practice nurses are assigned the task of providing baseline information, and some project members have queried whether the accumulation of this information has occurred in a standardised format. In non computerised practices, reviews of repeat prescriptions will identify target patients, however demands on the time of practice staff may result in many patients being overlooked. Assistance by the aspirin co-ordinator has been provided to practice staff throughout the project (41 of the 66 participating practices) and discussion with practice staff has continued throughout the project.

Although a clear description was given to primary care teams as to which patients should be contraindicated for prophylactic aspirin, some practices preferred to be more conservative, and therefore identified a much higher proportion of ‘contraindicated’ patients than expected. The average proportion of contraindicated patients from baseline data was 10%. It was decided that such clinical decisions had to be left to the GPs, although effort would be made to remind them of the actual evidence from the literature.

Summary findings from initial work:

Changes which were made:

Extensive discussions between the Aspirin Project steering group members (which includes representatives from both primary and secondary care) helped shape the initial aims and objectives of the aspirin project. Financial assistance secured from Research and Development Moneys from the Region, allowed for the employment of the aspirin facilitator and therefore provided a major linchpin to the project. Since its inception many changes have occurred within various organisations on which the project has impacted.

Many feel that the Health Authority has now firmly recognised the role of the Medical Audit Advisory Group (now the Primary Care Audit Group) in facilitating change with GP’s, which has provided a generic template for future work.

The role of PCAG itself, has indeed changed, resulting in whole population projects being viewed in a more positive light. This has helped set the agenda for future clinical effectiveness work in primary care. Having one person specifically assigned to the project appears to have had a greater effect on the general efficacy of PCAG, rather than having people who provide...
The perception of the Primary Care Data Project has now altered amongst many primary care team members within practices where a data manager is located. Many GP’s and practice staff now view the data project as a useful tool, and are now fully utilising the services offered by the Primary Care data managers within their own practice settings.

Improved data collection within a number of practices can also be accredited to the aspirin project. Many practices now have complete data set of their ‘at risk’ practice population. Primary care staff in many practices have now improved their documenting and data inputting skills as a result of the support and training provided by the aspirin facilitator.

As a result of this project, interested physicians have decided to audit the use of aspirin for selected patients in secondary care; one Trust is auditing the use of aspirin for stroke patients and another is auditing the use of aspirin for peripheral vascular disease.

These factors illustrate that within a short timespan, a number of changes have occurred within various organisations, which can be accredited to the aspirin project.

**How changes will be monitored:**

The progress of the aspirin project will continue to be monitored by the aspirin steering group, in the form of quarterly meetings. This will monitor outcomes data including:

- The percentage of practices participating in the project;
- Progress against the initial plan;
- PACT data for aspirin prescribing.

Clinical outcome will be evaluated by monitoring deaths and admissions to hospital for myocardial infarction and stroke in the next three years.

**Resource Implication:**

Financial assistance from the regional Research and Development money (£43,000 for the one year project) has allowed for the employment of the aspirin co-ordinator, and the commissioning of the market research. This money also covered the costs of:

- The media campaign (covering advertisement costs within local newspapers and the dissemination of posters within community settings);
- The organisation of two primary care seminars;
- Collation and dissemination of aspirin packs;
- The project has also used the time of all those on the Aspirin Steering Group, including the PCAG Coordinator, the Consultant Physician, the Public Health Consultant, the Pharmaceutical Advisor, and the GPs;
- Each participating practice has had to use a number of hours of staff time to provide data for the audits;

The running of future heart disease implementation projects has now been taken over by the Primary Care Audit Group. The costs of the coordinator will be taken out of PCAG funds.

**Practical lessons learnt:**

Like many short term funded projects, demands on individuals involved have been onerous and the timescales exacting. However, from discussions with key individuals involved in the project, it would appear that the rewards acquired from participation in this project have far outweighed these constraints.

Advice and assistance from primary and secondary care staff has proved to be invaluable. Secondary care consultants have consistently provided consent perspectives regarding dosage levels, contra-indications and definitions of what constitutes the “high risk” category patient. Initial discussions with primary care staff have also pre-empted potential difficulties in the practicalities of implementing the aspirin project.

Steering group members have unanimously concluded that, without funding to employ a full time facilitator, they could not have provided the support and assistance to primary care team members, a prerequisite for the successful implementation of the project. The aspirin facilitator, who had previous experience of working in a primary care setting and therefore was aware of competing demands on staff time, has proved invaluable in supporting primary care staff in data collection. Many primary care
team members commented on the invaluable training that was provided by the facilitator on various medical computer systems. Steering group members also cited the facilitator’s role in acting as a conduit between the steering group and primary care, highlighting demands on general practice that could have had implications on the project.

The experiences cascaded from the FACTS project have proved extremely useful; much information, including the aspirin pack and information sheets, was readily available and easily adaptable, thereby saving time which could be focused on other aspects of the project.

Surprisingly few issues have hindered the project during the past months. Only three main issues arose:

- The media campaign;
- Slipping timescales;
- The use of various medical computer systems within primary care.

Many steering group members stated that the market research, at a cost of £15,000, disproportionately drained the financial pot. Despite an extensive media campaign, the market research established that the general public’s perceptions of the benefits of aspirin in prevention of heart disease and stroke, had remained unaltered. However, valuable lessons have been learnt through participating in this exercise, and the steering group are unanimous in that future campaigns should be directed at ‘specified target group populations’ and that ‘general population’ campaigns are fruitless.

Assurances by some practices that they can return data sets within specified time periods, have been without substance, and as a result the audit timetable has slipped. Some fundholding practices experienced an increased workload from December to March due to contract negotiations and budget setting, and therefore viewed ‘aspirin’ as a low priority. A number of Liverpool practices are also in the process of establishing a computer link of their registration data to the Health Authority and practice staff time has been directed at completing this task. As a consequence of these factors, the audit cycle will take longer to be completed, and will not be concluded within a year as originally planned.

Currently within Liverpool, there are approximately eight different medical computer systems in operation within primary care settings, including VAMP and Meditel. The aspirin facilitator is literate on a number of these systems, but however found difficulties in providing support to practices which did not operate one of the more popular systems. Primary care data managers did provide assistance when required, but few, if any, individuals possess an overall insight into the workings of all the systems, therefore support provided was not uniform.

The Steering Group realised that projects such as this, place a large burden on practices and depend upon goodwill. It is therefore seen as very important to phase projects introduced within primary care, to make sure that they are not unduly overloaded.

**Conclusion:**

“In Liverpool, aspirin, atrial fibrillation and lipids have been hiding away for some time, and the aspirin project has provided a good place to start” (consultant cardiologist).

The aspirin project has now provided a methodology which it is hoped can be applied to the more complicated and more extensive cardio-vascular projects to be tackled in the future.

Following on from this project in relation to heart disease, Liverpool is planning to use a similar model for implementing effectiveness information on:

- heart failure;
- cholesterol;
- atrial fibrillation;
- hypertension.

This is a 3 to 4 year plan which will be implemented in a phased way.

Like the diabetes register, the aspirin project has encouraged primary care teams to take a population approach to the management of their high-risk patients, so that they can ensure that each patient is receiving clinically effective care.

**References:**

Antiplatelet Trialists’ Collaboration (1994). Collaborative overview of randomised controlled trials of antiplatelet therapy -


Clinical Standards Advisory Group (CSAG) (1994). Standards of Clinical Care for People with Diabetes. HMSO.


Organisational Context:

‘Population health outcomes assessment’, ‘health impact’ and ‘health gain’ are terms commonplace within Liverpool Health Authority departments, such as public health and primary care. Increasingly, Health Authority staff, such as public health consultants and neighbourhood commissioning managers, utilise health outcome indicators, (including a small number of indicators cited by the Department of Health), when assessing health care interventions. As such, investments are being targeted at those areas of recognised benefit, especially around areas of evidence-based health care.

With the adoption of the City Health Plan, there is a realisation that collective action is required by statutory, voluntary and community sectors if we are to make Liverpool a truly ‘Healthy City’. Terms, including ‘health gain’ and health outcomes are increasingly being used within these sectors, and people are now more focused on how they can maximise health in the city Only by utilising population health outcome indicators, will the sectors ascertain the extent to which they have achieved this goal by the year 2000.

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