



## **Scottish Asthma Management Initiative**

Final Report  
Executive Summary

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## EXECUTIVE SUMMARY

The Scottish Asthma Management Initiative provided general practices throughout Scotland with an opportunity to examine their management of asthma and identify improvements required to the service they provide. The data collected also provided the opportunity to build a picture of what is currently happening in Scotland with regard to asthma management in primary care.

Interest from potential participating practices, collated over the length of the project, was high with **776(74%)** of all Scottish practices expressing an interest to participate. **319 (30%)** practices completed one audit providing information on **9467** patients of all ages and severity. **6408(68%)** patients responded to the invitation from the practice to attend for a clinical assessment of their current asthma status. This review was aided by use of the Tayside Asthma Assessment Stamp. **76** practices completed a follow up audit providing information on **2250** patients in year one and **2278** patients in year two. Information over a 2-year period is available for **1259** patients. **190(60%)** practices opted to use the paper based system and **129(40%)** the electronic. Provision of distance learning material linked to Post Graduate Educational Allowance (PGEA) accreditation was free to general practitioners (GP's) and was a useful incentive for participation. **79** general practitioners returned distance-learning booklets and were awarded PGEA. **23** nurses opted to complete the distance-learning element of the initiative. A two-tier management system proved effective. 12 of the 15 Scottish health authorities agreed to recognise the audit for automatic CDM approval although the negotiation process was prolonged. Practices were encouraged to review 30 patients in the audit process. Through the detailed feedback given to practices all patients with asthma should benefit from more informed and structured care.

The national picture of how asthma is being managed in Scotland shows that:

- The majority of patients, **92%**, are managed exclusively in primary care.
- **20%** of patients experienced at least one asthma attack in the previous 12 months.
- Prophylactic asthma medication (BTS step 2-5) was prescribed for **68%** of patients.
- **73%** of the practices operate a nurse run asthma clinic.

- **17%** of nurses running asthma clinics have not undergone specialist training i.e. are not in possession of a recognised diploma in asthma care.
- Of those patients who attended for a clinical assessment **66%** had current symptoms.
- Self-management plans, recommended in the revised guidelines, were possessed by only **38%** of patients.
- A CDM approved clinic is operated by **65%** of the practices

By linking the study to clinical care and providing feedback on individual patients the audit had considerable influence on the practice organisation of asthma care as a point for critical discussion by the health care team. It encouraged health professionals to revise their knowledge of the BTS/SIGN guidelines and to think systematically about each facet of management highlighting how BTS recommendations can fit into the day to day running of an asthma clinic. Results show an improvement in process but more importantly an improvement in patient outcomes. Practices who completed the audit loop showed a reduction in the number of urgent GP consultations, patients who had an attack, patients who experienced any symptoms, and patients who experienced frequent symptoms. The cost to set up and run the service over the three-year period averaged out at approximately £500 per practice or £18 per patient in the study. A saving of, on average, £40 per patient per year in practices who complete an audit cycle, extrapolated over the 5% of the Scottish population who suffer from asthma, could mean a saving of £1m to the health service. Provision of a quality audit service that provides feedback is therefore cost effective and an appropriate use of health service resources.

From the information provided by the participants who completed the distance-learning element of the study the package was clear and easy to follow, yet challenging, stimulating and thought provoking. “An enjoyable experience” it was “a worthwhile exercise” and “of great benefit to individual GPs and their practices”. Practices found it helpful to have well-structured advice and guidance to follow both for managing individual patients and for changing the process of asthma care within the practice. It helped to improve awareness of weak areas in management even in practices who thought they were doing well. It was

considered to be a good basis for reviewing asthma management in a constructive and concise manner.

There were a number of issues highlighted as a result of the programme:

- There is a need to encourage health professionals to increase the use of specific patient management plans backed up with relevant education – 3564(38%) patients were in possession of a self-management plan.
- Follow up procedures need to be tightened up – 219(3%) patients were not given a follow up appointment after review despite the presence of frequent (daily) symptoms.
- Asthma registers need to be regularly reviewed and patients whose asthma is in remission, removed – 1009(11%) patients were on the active asthma register despite no evidence of symptoms or medication over the study period.
- Flexibility of clinic times may improve attendance at review – 3059(32%) did not attend for the study review and 694(7%) had not had a review during the year despite having an urgent consultation.
- There is scope for further improvement in the use of inhaled prophylactics – 832(13%) had symptoms but were not on prophylactic medication.
- Stepping down of medication – 1165(12%) of patients had stable asthma over the period but no attempt appears to have been made to step medication down.
- Recording of observations – 3614(38%) had no recording of PEFr in notes.
- Home peak flow monitoring – 5816(61%) patients were not in possession of a home peak flow meter.
- Regular review with partners regarding asthma management within the practice.
- There are time pressures for the practice when asked to carry out audit activity - 776 practices showed an interest in the audit but only 319 completed one audit with 76 completing the audit cycle. Dedicated time for audit should be considered.

The Scottish Asthma Management Initiative has provided the opportunity for general practices and health authorities in Scotland to work with a research unit to explore

innovative ways to improve the management and care of chronic disease. Participation in an initiative linked to guidelines, education and CDM approval is an excellent way to facilitate health professionals to improve care.

Links with secondary care have been established and has resulted in submission and acceptance of a joint proposal with Dr Jimmy Paton, paediatric consultant, for a project that will transcend both secondary and primary care. SAMI participated in the development of the SIGN Educational pack for asthma and were represented on the steering group which developed the criteria for the SPICE PC asthma project.

We conclude that SAMI:

- Provided standard criteria between health boards for assessing the provision of asthma care.
- Provided an educational opportunity for professionals as well as comparative data with other practices.
- Improved process of care but most importantly had a positive effect on patient outcomes
- Was a cost effective way to improve the management of asthma
- Was the definitive study of structure, process and outcome of asthma management within primary care in one country.

The initiative has highlighted the need to develop the process further with creative decision support within practice and educational initiatives that fit in with the needs of individual health professionals. An active strategy for dissemination of guidelines that encompasses the need for educational materials suitable for all health professionals to use when and where they wish must be considered. Future work to advance the cause of guideline implementation should therefore be based around audit and education which is presented using the advances in information technology.

Since preparing the data for this report a further nine practices have returned their data to the research unit, four having completed one audit and five practices who have completed

two audits. During the course of the initiative three practices have completed a total of three audits.

## SCOTTISH MANAGEMENT INITIATIVE

Number of practices in study **319**

Total patient population of study practices **1,830,4433**

Number of registered asthma patients in study population **112,189**

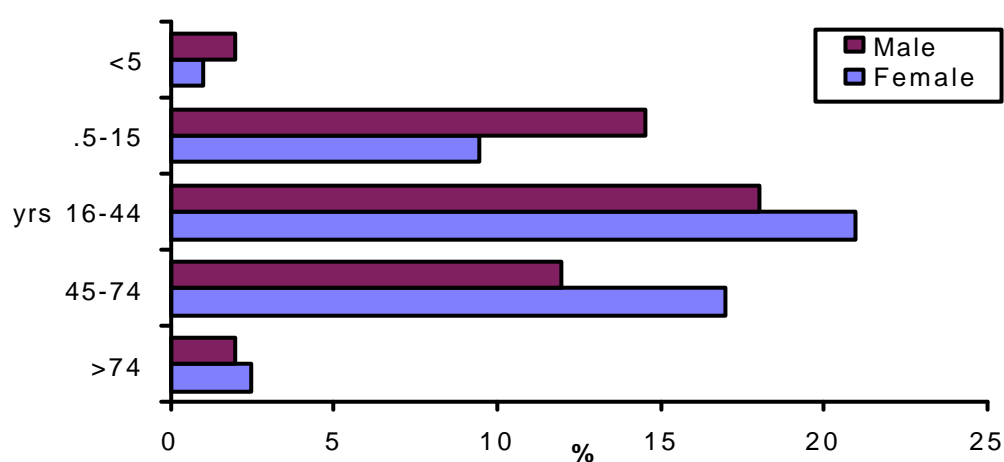
This represents **6%** of the total patient population

Number of patients with asthma enrolled in the study **9467**

The patient sample represents **8%** of all those on the study practices asthma registers.

Ratio of males: females in randomised sample 1:1.24

Figure 1 - Gender and age range in sample population:



**Table 1**

### Medication:

Number of patients	All practices n=9467 (%)	Re-audit 1 <sup>st</sup> year n=2250 (%)	Re-audit 2 <sup>nd</sup> year n=2278 (%)	Statistical significance Re-audit 1 <sup>st</sup> v 2 <sup>nd</sup>
Currently on prophylactic medication	6356(67)	1584(70)	1612(71%)	p<=0.46

### Morbidity:

Attack in previous year	1916(20)	490(22)	382(17)	p<=0.0001
Admitted in previous year	237(2.5)	65(3)	49(2)	p<=0.11
Urgent consultation with the GP	4097(43)	1082(48)	871(38)	p<=0.0001

### Patient Reviews:

PEFR checked in previous year	5853(62)	1478(66)	1673(73)	p<=0.0001
Inhaler technique checked in previous year	5196(55)	1353(60)	1583(69)	p<=0.0001
PEFM owned	3651(39)	938(42)	1216(53)	p<=0.0001

Possession of SMP	3564(38)	929(41)	1262(55)	p<=0.0001
Routine review in previous year	5286(56)	1389(62)	1657(73)	p<=0.0001
Attended for clinical assessment	6408(68)	1597((71)	1558(70)	p<=0.58
Any symptoms reported at assessment	4211(66)	1069(67)	935(60)	p<=0.0001
Frequent symptoms reported	1379(22)	368(23)	212(14)	p<=0.0001