2012

Asthma Check

Chronic Disease Watch - Asthma

To facilitate the implementation of best practice asthma guidelines in primary care to deliver optimal clinical outcomes for patients

National Asthma Programme

The Overarching Aim of the National Asthma Programme is to reduce the morbidity and mortality associated with asthma in Ireland and to improve the quality of life of all patients with asthma. A key component is management of people with asthma in primary care.

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Chronic Disease Watch – Asthma (Asthma Check)*

Introduction

- Asthma in Ireland is characterised by high disease prevalence[1,2], suboptimal control in the majority of patients[3], low uptake of objective lung function tests for diagnosis and management, no standardised review process, infrequent use of written asthma management plans[4] and poor patient education[5].
- Patients bear the main burden of poorly controlled asthma in terms of morbidity and mortality but the impact on our health service is also substantial. Hospitalisations, emergency department and unscheduled clinic visits, and use of rescue medications comprise the majority of exacerbation related treatment costs, contributing to an estimated 35 to 50% of total expenditure on asthma[6].
- The majority of patients with asthma can achieve and maintain control; international evidence has demonstrated that implementation of guideline based management, integrated across primary and secondary care, can significantly reduce emergency department attendances, hospital admissions and deaths from asthma[7].
- In Ireland, the majority of patients with asthma are managed in primary care. *Asthma Check* outlines the essential elements of an effective primary care asthma service and how this service will integrate seamlessly with secondary care when necessary for optimal patient outcomes under the overarching governance of the National Asthma Programme.
- The National Asthma Programme and the Irish College of General Practitioners have collaborated on the development of guidelines for asthma management in primary care. These guidelines provide the clinical evidence which underpins *Asthma Check* and should be considered as an integral part of this document.
- The Asthma Demonstration Project, a joint initiative between ICGP and the Asthma Society of Ireland, showed that a guideline based asthma programme can be successfully implemented in primary care if practices are provided with the necessary resources for diagnosis, management and patient education[5].

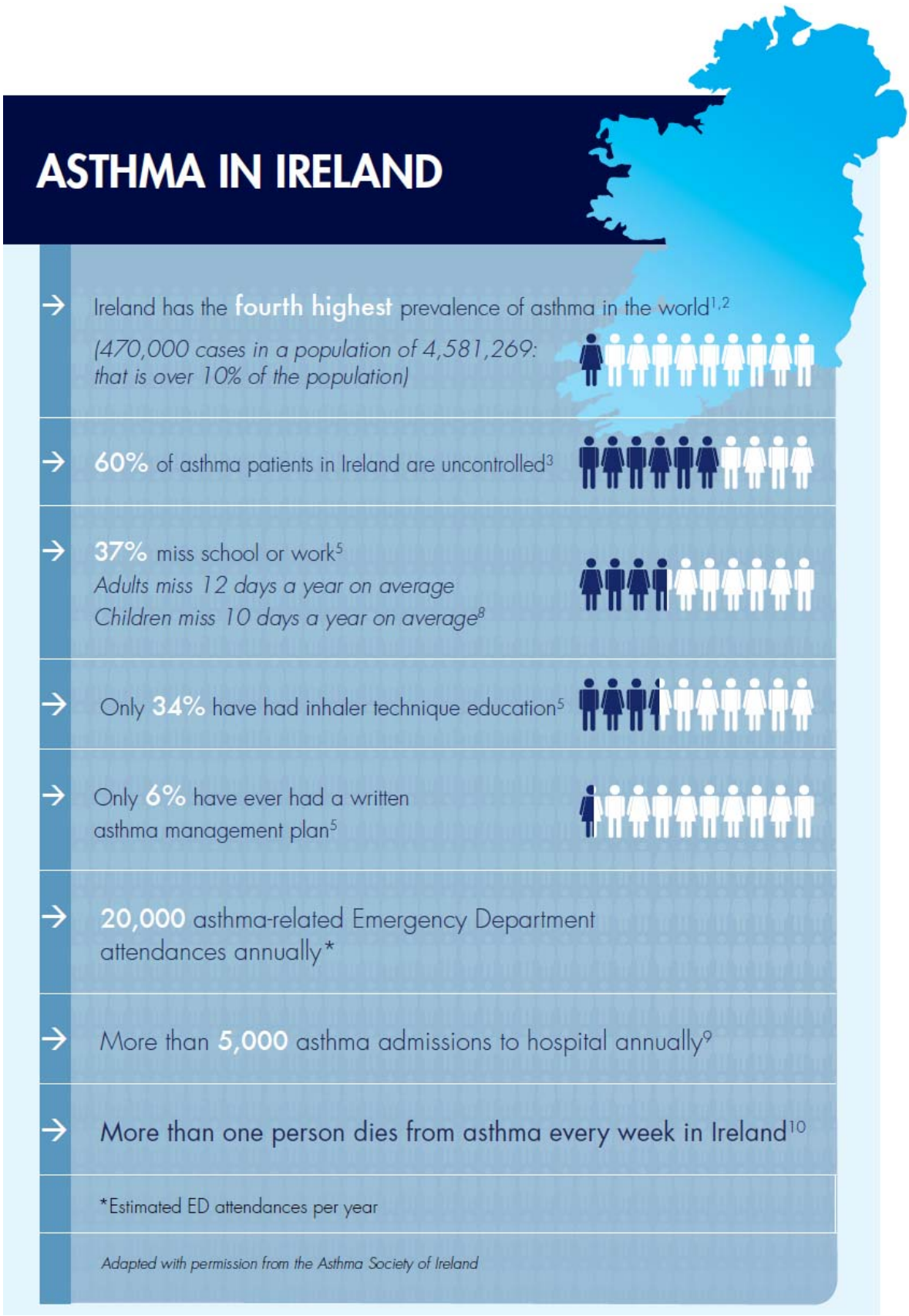
What is Asthma Check?

Asthma Check outlines the step-by-step process for implementation of guideline based asthma management in primary care to deliver optimal outcomes for patients.

What is the aim of Asthma Check?

The aim is to facilitate the implementation of best practice asthma guidelines in primary care in order to improve asthma control.

*Chronic Disease Watch – Asthma will be referred to as *Asthma Check* throughout this document.



Current Data 2012

Asthma Check - Key Points

- *Asthma Check* has been developed by the National Asthma Programme to support health professionals in Primary Care to deliver guideline based asthma management, ensuring that all patients understand their disease, have written asthma management plans, and are prescribed optimal therapy to control symptoms and prevent exacerbations.
- The programme recognises that a small percentage of patients with difficult to control asthma account for a large proportion of overall asthma morbidity and mortality; however the programme also recognises that all patients with asthma, including those with stable disease, are susceptible to exacerbations and should have regular structured review and updating of their asthma management plan. Regular structured asthma management and review in primary care has been shown to reduce exacerbations, morbidity and mortality[7].
- Guided self management education, including self monitoring of peak expiratory flow and/or symptoms, with regular medical review and supported by a written asthma action plan has been found to improve health outcomes[11]
- Patients may underestimate their symptoms[12] and it is important therefore that a validated tool is used to assess control
- To maximise benefit of *Asthma Check* the programme will be delivered by asthma trained health professionals in primary care to optimise diagnosis, assessment, treatment and ongoing monitoring of asthma control.
- Central to the implementation process will be the standardisation of an asthma review to be carried out at least annually with every patient registered on the programme. This will optimise treatment, ensure institution of inhaled corticosteroid therapy early in asthma management where appropriate, encourage medication adherence and address underlying problems with asthma care and management:
    - Inhaler technique
    - Adherence to and understanding of medications
    - Self management education including personal asthma plans and self monitoring
    - Management of co-morbidities and triggers including allergic rhinitis
    - Smoking cessation and/or avoidance or exposure to second hand smoke
- Regular review of asthma control and development of a written personal asthma management plan by a practice nurse in partnership with the patient who is diagnosed with asthma and an asthma trained general practitioner can be carried out either in a dedicated asthma clinic or opportunistically as the patient presents. The structured asthma management programme, as detailed in this document will be undertaken within the organisational structure of Irish General Practice. It is recognised that this may be easier to implement in larger group practices that may have more nursing support and on-site equipment and may be more difficult in some smaller, less well supported practices. *Asthma Check* will provide guidelines, templates for structured annual reviews, protocols for management of exacerbations, patient education materials, and asthma management plans to support the healthcare professional to deliver optimal asthma care.
- Recognising the importance of audit in the rollout of a chronic disease programme a Minimum Data Set has been developed to allow health professionals evaluate their performance in respect of asthma care within their own practice and against national standards.

What are the implementation priorities for Asthma Check in primary care?

1. ***Education of healthcare professionals to deliver asthma care and management consistent with 'Asthma Control in General Practice 2012' national guidelines***
2. ***Enrolment of all asthma patients in Asthma Check on a phased basis with clearly identified target groups***
3. ***Education of asthma patients to support guided self management***
4. ***Integration of care to ensure that patients are seen in the setting most appropriate to their clinical need and by healthcare professionals with the skills, knowledge and resources to manage that clinical need***
5. ***Adoption and Implementation of Acute Asthma Protocols across primary care, out-of-hours, pre- hospital emergency care, emergency departments and acute medical units.***
6. ***Coding of all patients (ICD-10 or ICPC) with a confirmed diagnosis of asthma as a precursor to the implementation of the national Unique Health Identifier***

1. ***Education of Healthcare Professionals to deliver asthma care and management consistent with 'Asthma Control in General Practice 2012'***

Key points

- To Improve the accuracy of diagnosis through clinical history, evaluation of symptoms and appropriate lung function testing (peak flow monitoring and/or spirometry)
- To improve the management of asthma patients following the 'Assess, Treat and Monitor' cycle as described in the guideline

It is essential that all healthcare professionals delivering care under *Asthma Check* have a thorough understanding of the disease, up-to-date knowledge of the recommended guideline, and all the different components of care including inhaler technique, peak flow monitoring, good communication skills to support patient education and development of self management plans.

The following educational programmes have been developed by the National Asthma Programme to meet the requirements of healthcare professionals delivering asthma care under *Asthma Check:*

- 6 module eLearning programme available free of charge on the HSE website and on the Asthma Society of Ireland website
  - Recommended for all primary care health professionals
- Clinical skills programme (half day) focussing on inhaler technique, peak flow measurement, development of asthma management plans and acute care protocols.
  - Recommended for all practice nurses, and at least the lead GP in each practice registered for *Asthma Check*
- Clinical skills programme focussing primarily on inhaler technique and peak flow measurement.
  - Recommended for pharmacists
- Healthcare professionals who have completed a NAP recognised asthma education programme within the previous two years will not be required to repeat the modules but will be required to undertake CPD as the guidelines are updated
  - Recommended for health professionals in primary care and physicians in training
- ICGP have developed additional asthma modules to complement the NAP programmes
  - Recommended for all primary care physicians and physicians-in-training

The eLearning programme has been approved for CPD credits by ICGP, CEUs by the Irish Nursing and Midwifery Board (INMB) and distance learning credits by ICCPE. The clinical skills programme is recognised for Category 1 approval and CEU credits by INMB.

Clinical Nurse Specialist (CNS) Delivered Asthma Skills Training

As the education programme for healthcare professionals is the key first step in implementing *Asthma Check* the clinical skills programme will be delivered in format by skilled and accredited Respiratory CNS in the first instance, with the aim of regionalising and localising the required skills as quickly as possible. As the programme is resourced and funded consideration should be given to the development of a Community Respiratory CNS in each ISA to support education and guideline implementation.

The education programmes components

The core components of the education programmes are based on the guideline 'Asthma Control in General Practice 2012' and will equip the healthcare professional with the skills to achieve the following long term goals of asthma management:

- Achieve and maintain control of symptoms
- Maintain normal activity levels, including exercise
- Maintain pulmonary function (FEV1 or PEF) as close to normal as possible
- Prevent asthma exacerbations
- Optimise asthma medication and avoid adverse effects
- Prevent asthma mortality

See appendix 1: Asthma Control in General Practice 2012 – Clinical Diagnosis and Asthma Management (Assess, Treat and Monitor)

Spirometry

Measurements of lung function (spirometry or peak expiratory flow) provide an assessment of the severity of airflow limitation, its reversibility and variability. In some patients spirometry may be required to confirm a diagnosis of asthma or to monitor the progress of the disease.

All healthcare professionals performing spirometry will need to be competent, trained and accredited to national spirometry standards recommended by the Irish Association of Respiratory Scientists for the National Asthma Programme. A spirometry training programme developed by IARS for both the Asthma and COPD programmes has been accredited by the Dublin Institute of Technology. A spirometry interpretation module is currently being developed by DIT and ICGP targeted specifically at GPs who will be making clinical decisions based on spirometry readings.

Practices providing spirometry services must ensure that the equipment used is fit for purpose, calibrated and serviced regularly in line with manufacturer's instructions. The healthcare professional delivering spirometry services must meet on-going competency requirements as defined in the agreed spirometry guidelines.

Where practices cannot meet the recommended national standards either for technical or interpretative criteria, open access spirometry services will need to be available at secondary care. In addition, as the PCT network is developed and expanded it may be feasible to offer spirometry through PCTs at a local level.

Reference: Irish Association of Respiratory Scientists Spirometry Guidelines

2. Enrolment of all asthma patients in Asthma Check on a phased basis with clearly identified target groups.

Key points

- Phase 1 - high risk patients e.g. following an Out- of- Hours or ED visit, a hospital admission or considered at high risk of admission
- Phase 2 – patients uncontrolled on Treatment Step 3 of the guidelines or who have attend primary care with an exacerbation within the past year
- Phase 3 - all patients with a confirmed diagnosis of asthma

An important element of the *Asthma Check* programme is the concept of 'panel reviewing' whereby all patients with asthma in each practice are reviewed and the level of asthma care is compared to an agreed national standard. This will require:

- identification of all patients currently on asthma medication
- confirmation of the diagnosis of asthma
- allocation of an international disease code for asthma to each patient (ICD 10 or IPCP)
- scheduling a structured review, at least annually, for each patient

The programme proposes to initially prioritise patients for enrolment in *Asthma Check* based on carefully identified target populations classified by clinical risk:

- Target Group 1: Patients with a history of exacerbations requiring urgent care in the previous 12 months- e.g. patients attending out-of-hours clinics, emergency departments and those admitted to hospital. In line with the National Asthma Programme recommendations these patients will be followed up by a specialist respiratory team in secondary care but will also be required to contact their primary care provider within two working days of discharge for enrolment in *Asthma Check.* This does not represent a duplication of effort but rather a reinforcement of the resources needed to meet the needs of this high risk group – patients with the most need and who may benefit most. Patients identified as 'high risk' will also be considered to be Priority 1 patients, these include: patients with a history of psychiatric disease or psychosocial problems, those with significant co-morbidities such as IHD, and patients with an over dependence on rapid-acting beta 2 agonists, especially those who use more than 1 canister of salbutamol (or equivalent) monthly. Estimate of 50 patients per General Practice to be enrolled in Year 1
- Target Group 2: Patients who have attended primary care with exacerbations in the previous 12 months, those on Treatment Step 3 of the Asthma Control in General Practice Guideline and those using fixed dose inhalers.
- Target Group 3: All patients with a confirmed diagnosis of asthma will be invited to enrol in *Asthma Check* within 5 years and offered a structured review at least once per year.

The priority target groups identified above do not preclude enrolment of patients on an opportunistic basis if practice resources allow – e.g. patients presenting for repeat prescription, flu vaccine, allergic rhinitis management and especially those patients with poor asthma control identified at routine visits.

All patients enrolled in *Asthma Check* will be managed according to standardised protocols:

- Enrolment visit – the diagnosis of asthma should be confirmed according to guideline based criteria. The criteria for the enrolment visit are defined in the 'New Patient- Initial visit Process' flow chart in 'Asthma Control in General Practice 2012'. See Appendix 1.
  For Priority 1 patients discharge letters from ED, AMU and admissions should provide the relevant information and duplication of effort should be avoided at the enrolment visit. Discharge information should include confirmation of diagnosis, results of any investigations, especially spirometry and radiology, medications and educational topics addressed. This information will provide the baseline enrolment data. The schedule of planned visits to the Respiratory Clinic should be provided to enable the primary care team to tailor visits to the practice to meet the clinical needs of the patient, address key education priorities and provide support to the patient in the post discharge phase.
- All new patients presenting with a possible diagnosis of asthma should be assessed following the 'New Patient – Initial Visit Process' (See Appendix 1) flow chart to ensure accurate diagnosis. New patients with a confirmed diagnosis of asthma should be automatically enrolled in the programme.
- The frequency of subsequent visits will be dictated by clinical need, asthma control status and achievement of educational objectives by the patient. Stable, well controlled patients with demonstrated acceptable inhaler technique and self monitoring/self management skills can be considered for structured annual review. Written asthma management plans should provide clear instructions to patients on when and how to seek medical advice outside of the annual review process.
- Structured Annual Review: The key component to improving overall asthma control is a structured review by an asthma trained healthcare professional. This will move asthma care and management from an ad hoc unscheduled process to a managed system which will allow for a full review of the multiple components of effective asthma management. This review will follow the 'Scheduled Review Process' flow chart (See Appendix 1) and be consistent with the guideline 'Asthma Control in General Practice'. Patient education should be supported by provision of education material and nationally agreed written asthma management plans developed for the National Asthma Programme by the Asthma Society of Ireland. Every patient enrolled in *Asthma Check* should have a structured review at least once per year.
- The review will be carried out by an asthma trained practice nurse with overall supervision by an asthma trained general practitioner.
- The annual review will require approximately 30 minutes of practice nurse time, 10 minutes of GP time. If spirometry is required additional time should be booked.

Asthma Control Status is defined by GINA criteria – see Appendix 1: Asthma Control in General Practice 2012 – 'Assessing the level of asthma control'

The Asthma Control Test (ACT) is a useful tool for self administration by patients to assess asthma control.

The Royal College of Physicians (UK) '3 Questions' is a useful tool to assess asthma control at every patient visit – (see Appendix 1, Scheduled Review Process)

Optimising therapy to achieve asthma control:

Asthma in an inflammatory condition of the airways and the majority of patients will require anti-inflammatory therapy to achieve and maintain control. The efficiency of Inhaled Corticosteroids (ICS) in reducing airway inflammation and hyper – responsiveness has led to its widespread use as initial therapy in the treatment of asthma. Regular use of ICS, even in low doses, also prevents a large proportion of hospital admissions (up to 80%) in both adults and children with asthma, either early or late in the course of the disease. Regular use of ICS is also associated with a decreased risk of death from asthma[13]. The structured review provides an opportunity to assess the patient's treatment regimen to ensure that ICS are prescribed in conjunction with short acting beta agonist reliever inhalers for newly diagnosed patients and patients with uncontrolled asthma. Treatment should be consistent with the step wise approach defined in the guidelines.

See Appendix 1: Asthma control in General Practice - 'Treating to Achieve Control'

3. Education of the person with asthma to support guided self management

Key points

- Optimise inhaler technique, medication adherance and self monitoring
- Provide a written personal asthma management plan to help patients with asthma make changes to their treatment in response to changes in their level of asthma control as indicated by symptoms and/or peak expiratory flow

The effective management of asthma requires the development of a partnership between the person with asthma* and his/her health professional. The aim of this partnership is to enable everyone with a diagnosis of asthma to gain the knowledge, skills and confidence to assume an active role in the management of their asthma. This approach is called guided self management and has been shown to reduce asthma morbidity in both adults and children[11].

(*this includes parents of children with asthma, carers and guardians, and significant others in a caring role for patients with learning disabilities, and mental or physical special requirements)

This component of *Asthma Check* aims to address the internationally identified patient-based issues that contribute to sub-optimal asthma control:

- Poor medication adherence, especially with inhaled corticosteroids
- Poor understanding of the difference between reliever and controller medications
- Poor inhaler technique
- Acceptance of poor control, lack of knowledge on self monitoring of symptoms/peak flow
- Identification and management of triggers especially allergic rhinitis and smoking
- Concerns about the side effects of medications, especially ICS

The guideline, eLearning programme and the clinical skills programme provide specific guidance on supporting patient education to facilitate guided-self management and the collaborative development of written personal asthma management plans within the context of a structured asthma review.
The National Asthma Programme, in partnership with the Asthma Society of Ireland, provides resources for health professionals to support patient education:

- Asthma information for adults and children in booklets and on the website
- On-line inhaler technique and peak flow videos
- Approved templates for personal asthma management plans

People with self-management plans have better control of their asthma, better compliance with medication, improved outcomes and fewer serious events. These patients have fewer visits to their doctor, fewer days off work and school, and less night-time symptoms[11].

A key objective of *Asthma Check* is to ensure that patients enrolled in the programme have a clear understanding of their condition and a written personal asthma management plan to:

- Encourage self-monitoring of symptoms and peak flow
- Clearly indicate controller medications to be taken regularly, reliever medications to be taken as needed and how to adjust medication in response to worsening control
- Identify signs that asthma is getting worse
- How and when to seek medical advice

See Appendix 1: Asthma Control in General Practice 2012 – 'Essential Features to Guided Self Management' and Module 5 of the eLearning Programme. See Appendix 1:Written Asthma Management Plan- National Asthma Programme

4. Integration of care to ensure that patients are offered services in the setting most appropriate to their clinical needs and by a healthcare professional with the skills, knowledge and resources to manage that clinical need.

Key points

- Access to lung function tests if not available in practice
- Rapid access to specialist expertise following referral guidelines developed by the National Asthma Programme
- Development of an IT system to support data linkage and communication between primary care and across the health service to maximise timely and effective asthma management

The majority of patients with asthma can be effectively managed in primary care. The National Asthma Programme will ensure that the primary care physician has access to comprehensive diagnostic services for patients in whom there is diagnostic uncertainty and that expert opinion is easily accessible for patients requiring specialist respiratory services for difficult to manage asthma.

Referral Criteria for Diagnosis[14, 15]:

- Spirometry if not available in the practice

- Chest X Ray
- Patients with normal spirometry where measurements of airway responsiveness to methacholine, histamine, mannitol or exercise challenge may help establish a diagnosis of asthma
- Measurement of allergic status if not available in the practice
- Diagnostic challenges such as children under 5 years, patients with Exercise Induced Bronchospasm (EIB), elderly patients with co-morbidities or where asthma and COPD are difficult to distinguish
- Suspected Occupational asthma

Referral criteria for management[15]:

- Patients not controlled on Treatment Step 3 should be referred to a health professional with resources and expertise in the management of asthma for investigation of alternative diagnoses and/or causes of difficult to treat asthma.
- Co-morbidities contributing to poor control such as congestive heart failure or COPD
- New patients over age 65 with multiple medical problems
- Patients requiring repeated admissions for worsening asthma over the previous year
- Patients requiring oral steroids for maintenance or those requiring treatment with immunosuppressants or monoclonal antibodies

An effective and efficient referral system, with appropriately prioritised access to diagnostic services, specialist consultation and acute care services will be facilitated by:

- Standardised referral letters, in line with those being developed by the Clinical Care Programmes, reflecting the priority status:
  - Emergency transfer to ED
  - Urgent referral to AMU – same day
  - Rapid access to respiratory clinic – 2 weeks
  - Routine referral for diagnostic/management issues – within 8 weeks
  - Referral for spirometry or radiology only – 2-4 weeks
- Integrated IT systems to support data linkage and communication between community care and across the health service to maximise timely and efficient asthma management

5. Adoption and implementation of Acute Care Protocols across primary care, out-of-hours care, pre-hospital emergency care, emergency departments and acute medical units (AMU)

Key points

- Patients may present with an asthma exacerbation at any point across the health service
- The National Asthma Programme has developed protocols for the management of exacerbations in primary and secondary care for both adults and children.

Asthma Check will prioritise the implementation of the following protocols:

- Management of acute asthma in children aged 2 to 5 years in General Practice
- Management of acute asthma in children aged 6 to 15 years in General Practice
- Management of acute asthma in adults in General Practice

Implementation of these protocols in primary care and in Out-of-Hours services should be seen as a 'stand alone' priority and all staff should be familiar with assessment criteria, treatment protocols and criteria for referral to emergency services.

In addition to the acute care protocols the management of asthma exacerbations is also included in the guideline 'Asthma Control in General Practice' and Module 6 of the eLearning programme.

Asthma Check supports the guideline recommendations:

- Mild to moderate exacerbations should be treated by a short acting bronchodilator delivered via a metered dose inhaler with a spacer device[16]
- Nebulised beta agonist bronchodilators, **where indicated,** should preferably be driven by oxygen, not air-driven compressors[17].

Avoiding future episodes and following up on acute episodes

Patients experiencing an exacerbation should be put on an 'Asthma Risk Register' in the practice and prioritised for inclusion in *Asthma Check* in line with the target groups identified earlier. Patients attending ED or patients admitted to hospital will be followed up by specialist services in secondary care in line with National Asthma Programme recommendations.

See Appendix 1: Asthma Control in General Practice 2012 – Management of Asthma Exacerbations and Acute care Protocols. See also Module 6 eLearning Programme

6. Tools to facilitate the development of clinical data bases, standardisation of data, and clinical audit

Key points

- Development of an in-practice clinical asthma data base
- Development of audit tools using the Minimum Data Set defined in this document
- Benchmarking of performance both in practice and against national standards as define by the National Asthma Programme

Coding of Patients with a confirmed diagnosis of asthma

A simple and efficient system to identify patients with asthma in each practice is an important and essential component of Chronic Disease Watch. Internationally recognised disease codes can be assigned to patients with a confirmed diagnosis of asthma to build up a clinical data base in each practice. The programme recommends the ICD 10 or ICPC codes for asthma

For practices not already coding patients by disease codes (either ICD 10 or ICPC) this will be an iterative process. The recommended steps are:

- Search practice databases for patients who are already coded
- Identify patients prescribed asthma medications
- Identify patients as they attend for review, repeat prescription or flu vaccine
- Patients presenting with exacerbations or attending the practice post ED or admission
- All new patients with a confirmed diagnosis of asthma

All patients with a confirmed diagnosis of asthma will be coded as part of *Asthma Check* to facilitate the development of an in-practice asthma register, and an 'at risk' register for high risk patients.

This is a valuable precursor to achieving an integrated IT solution that will allow patients to be managed across the healthcare system. The Unique Health Identifier, being developed by HIQA, is outside the scope of this document

Minimum Data Set

The Minimum Data Set has been developed to assist healthcare professionals to provide guideline based asthma management at each visit and especially at the structured annual review. Following a review of international literature the following criteria have been agreed:

- GINA Control Status: controlled/partially controlled/uncontrolled
- Current asthma medications
- Asthma management plan
- Asthma education (including inhaler technique, peak flow, trigger management etc)
- Peak flow measurement
- Result of last Spirometry if deemed necessary (FEV1 %of personal best or predicted)
- Post exacerbation review
- Number of unscheduled clinic/OOH visits in previous 12 months
- Number of ED or hospitalisations (with length of stay) in previous 12 months

- Number of days missed from school/work in previous 12 months
- Influenza/pneumococcal vaccination dates
- Smoking status & cessation advice if appropriate/avoidance of environmental tobacco smoke for children and non-smokers

The Minimum Data Set development will require IT support to ensure that it becomes an intuitive part of the asthma consultation and fits seamlessly into daily practice. This will be developed in line with the proposed diabetes model.

Audit

The minimum data set will provide a data capture tool for audit purposes. The data will be captured automatically from the clinical record to ensure that the work load is minimal. Audit of the impact of *Asthma Check* and the National Asthma Programme is essential to benchmark performance both in practice and against national standards determined by NAP. However this is dependent on significant investment in IT to support the creation of an 'asthma identifier' for each patient, facilitate in-practice evaluation of clinical benefits and extraction of anonymised data for national comparisons

What are the minimum requirements for successful and sustainable implementation for *Asthma Check?*

Governance

The implementation of all chronic disease programmes, including *Asthma Check,* will require a robust governance structure to ensure the delivery of high quality, cost effective care to a significant cohort of patients in the Irish healthcare system. Consideration will have to be given to the impact of the substantial transfer of chronic disease management from secondary to primary care, the change management processes required to effect this transfer, and the appropriate resourcing (monetary, human and physical) to deliver and maintain the programmes. This document assumes that the overarching governance of the Chronic Disease Programmes will be the remit of the HSE Clinical Care Directorate and other stake holders involved in the disease management process.

The process of implementation will require contract negotiations with health professionals in primary care, development of an IT system capable of supporting chronic disease management across the health sector, and ultimately the adoption of a Unique Health Identifier for all patients.

The issues of education, continuing professional development, practice supports, payment structures and governance will need to be developed as a matter of priority.

Registration Body

In the absence of a single approved model for participation in any of the Clinical Care Programmes we have referenced Cervical Check as a possible template for healthcare professionals in primary care to be trained, registered and reimbursed for participation in *Asthma Check.*

In the absence of an agreed contractual framework to deliver the programme or a formal registration body to oversee the programme we make the following **recommendations** for participation:

Participating Practice – physical requirements:

- The practice must have adequate space to run a structured programme
- The practice should be computerised and use an ICGP accredited clinical software package. Practices that are not computerised must be able to demonstrate that they are capable of capturing the Minimum Data Set for clinical audit and national reporting
- If the practices provides a spirometry service the equipment must be fit for purpose, calibrated and serviced regularly, and meet minimum requirements for infection control
- The practice should maintain an 'asthma tool kit' containing peak flow meters, examples of spacer devices for adults and children, placebo inhalers where possible
- The practice should maintain a stock of approved asthma management plans and patient information booklets , sufficient to meet the needs of their asthma population
- The practice should display, in a prominent position, the Acute Care Protocols for the management of asthma exacerbations

- It is recommended that the practice should have oxygen cylinders available for the delivery of nebulised bronchodilators if nebulisation is required

Participating GP

- One GP in each participating practice will be the designated lead for *Asthma Check*
- The lead GP will have completed the approved asthma education modules and will maintain skills and knowledge through asthma specific CPD programmes as recommended by ICGP and the National Asthma Programme
- The lead GP will carry overall responsibility and leadership in the running of integrated asthma care in the practice as defined by the governance structure
- Strive to ensure that participating patients are managed in accordance with 'Asthma Control in General Practice' guidelines
- Will audit, on an on-going basis, the service provision to asthma patients
- The lead GP will ensure the following:
    - Maintenance of an up-to-date clinical database of asthma patients in the practice
    - Practice staff are familiar with the agreed guidelines, models of care, acute care protocols, patient information and education resources
    - All members of the team are aware of their roles and responsibilities towards the asthma patient
    - The practice strives to meet the objectives of *Asthma Check* and the National Asthma Programme
    - Adequate processes are in place for recording, monitoring and reporting on the agreed key performance indicators described in *Asthma Check*
    - Adopt the integration pathway as described in the National Asthma Programme's Model of Care
    - Implementation of a local referral pathway for patients uncontrolled on Treatment Step 3 of the guidelines to a health professional with expertise in asthma management
    - Patients with an acute asthma exacerbation are referred in accordance with the Acute Asthma Protocols
    - ICGP best practice guidelines in respect of repeat prescriptions are followed to ensure that no patient who is enrolled in the programme is given a repeat prescription for a period in excess of six months without a clinical review of asthma control* and appropriate adjustment of medications
    - Guideline based prescribing is adhered to in the practice to deliver clinical benefits and cost effective prescribing

*For example, using the recommended tools to assess asthma control: ACT can be done by the patient; C-ACT can be used for children; RCP 3 Questions. All these assessment can be carried out by the practice nurse.

Participating Practice Nurse

- Ideally a practice nurse should be attached to the practice. If a Practice Nurse is not available a GP can run the programme if they can deliver the essential responsibilities described below. Consideration should be given to enrolling nursing support to run the programme
- The practice nurse will have completed the approved asthma education modules and will maintain skills and knowledge through asthma specific CPD programmes with INMB approval and recommended by the National Asthma Programme
- The Practice nurse should have IT competency to support delivery of the programme
- Reporting to the lead GP The Practice Nurse will:
    - Facilitate structured visits for their asthma patients adhering to the guidelines
    - Liaise with the local specialist asthma services primarily with the designated Clinical Nurse Specialist
    - Assess lung function: peak flow in all cases and spirometry if accredited and the service is offered by the practice
    - Educate patients
    - Recall patients to attend for scheduled reviews and vaccinations
    - Provide episodic reviews as required and assess asthma control on a six monthly basis using validated criteria* prior prescription renewal
    - Liaise with the community pharmacist to optimise patient education, ensure devices are appropriate to patients needs and skills
    - Where practical, be proactive in his/her area to improve community awareness of asthma and provide information to schools and sports clubs on what to do in an emergency

Community Pharmacist

The role of the community pharmacist in successful asthma management programmes has been demonstrated in a number of international settings. In particular the Finnish Asthma Programme highlights the positive impact of community pharmacy involvement in improving asthma outcomes[7]. Pharmacists participating in *Asthma Check* will:

- Have completed the approved eLearning Programme and the pharmacy specific clinical skills programme
- Play an inclusive role in the management of asthma patients enrolled in *Asthma Check* under the clinical leadership of the general practitioner
- Support patient education in the areas of inhaler technique, use of spacer devices and peak flow meters, medication adherence, understanding the difference between reliever and controller medications, and medicine use reviews
- Liaise with the GP and/or practice nurse on an on-going basis but especially to alert the practice if concerned about asthma control
- Alert the practice about any case of emergency supply of reliever inhalers
- Provide advice on managing risk factors such as allergic rhinitis and smoking cessation
- Provide flu vaccination services if appropriate

- Assist with identification of new cases of asthma e.g. patients presenting for frequent repeat cough bottles

Patients with asthma and parents of children with asthma

Patients and parents of children with asthma enrolled in *Asthma Check* should recognise the important role they play in achieving optimal asthma control. The Asthma Society of Ireland provides a wide range of patient education resources and support services to assist people with asthma to play an active and responsible part in guided self management. Patients enrolled in the programme will need to recognise the importance of:

- Medication adherence
- Understanding their individual asthma medications, especially the role of ICS in asthma
- Inhaler technique
- Understanding the difference between reliever and controller medications
- Discussing concerns about medication side effects with their health professional
- Avoidance/management of triggers, especially allergic rhinitis
- Smoking cessation
- Maintaining a healthy weight
- Understanding and following their asthma management plan

Asthma Check – recommended future research

There are a number of significant gaps in baseline data relating to asthma management in primary care in Ireland. These include the following:

- Individual prescribing data for asthma patients in Primary Care and specifically the volume and cost of Inhaled Corticosteroid therapy usage (current and forecasted)
- Actual number of Out-of-Hours attendances for acute asthma exacerbations
- Actual number of acute asthma exacerbations managed daily in Primary Care that are not referred to ED, AMU from Out-of-Hours
- Actual cost of managing an acute asthma exacerbation in Primary Care
- Number and cost of nebulisations specifically coded and related to asthma.

The National Asthma Programme could assist with protocol development, advice on study design and statistical analysis should these research topics be of interest to GP registrars completing their research requirement for training.

What are the National Asthma Programme supporting resources?

- National Asthma Programme Guidelines: Asthma Control in General Practice 2012
- National Asthma Programme Acute Care Protocols
- National Asthma Programme prescribing protocols
- Hospital Discharge Bundles (see Model of Care)
- Agreed communication pathways between Primary and Secondary Care (see Model of Care)
- A template for an electronic guideline based consultation pathway to optimise care and facilitate data capture from the Minimum Data Set has been piloted in the Asthma Demonstration Project[18]. Further development of this template is required

Asthma Check – Practice Based Key Performance Indicators

Performance indicator:	Rationale	Target in 2013*
Percentage of Priority 1 patients who are offered an *Asthma Check* enrolment appointment within 2 weeks of discharge from hospital or emergency care where the practice has been informed of an OoH/ED visit or a hospital admission	Patients who have had an acute exacerbation of asthma requiring either hospital care or out-of-hours care are at risk of a further exacerbation within 3 months	95%
Percentage of Priority 1 patients who have agreed to be enrolled in *Asthma Check* who are seen for a base line visit within 2 weeks	Priority 1 patients should be supported by their primary care team, in addition to management in secondary care, to achieve optimal control	80%
Percentage of patients enrolled in *Asthma Check* who have had appropriate lung function testing recorded at their most recent structured visit	Lung function testing measures severity, reversibility and variability of airway limitation. This assists in the diagnosis and assessment of level of control	95%
Percentage of patients enrolled in *Asthma Check* who have had their inhaler technique checked at their most recent structured visit	Inhaler technique should be checked by a health professional who has completed the National Asthma Programme training modules	100%
Percentage of patients enrolled in *Asthma Check* who have had their written asthma management plans initiated/reviewed at their most recent structured visit	Self management through the use of written asthma management plans, supported by asthma education and patient monitoring assists the patient to make changes in treatment in response to levels of asthma control	95%
Percentage of patients who are known smokers enrolled in *Asthma Check* who have had smoking cessation advice provided at their most recent structured visit	Avoidance of active and passive smoking is essential for both adults and children; smoking cessation support services should be provided for all patients	95%
Percentage of Priority 2 patients who are offered an enrolment appointment in *Asthma Check* within 2 weeks	Patients who have had an acute exacerbation of asthma within the last year or who need to be maintained on Step 3 of the guidelines are at risk of acute exacerbations	Year 2 of Programme 95%
Percentage of Priority 3 patients who are offered an enrolment appointment in *Asthma Check* within 2 weeks	Patients with no history of exacerbation in the past year and managed on step 1 to 2 of the guidelines	Year 3 of Programme 95%

*This document assumes that 2013 will be Year 1 of implementation of the National Asthma Programme

Achievement of KPIs is contingent on:

- ✓ Practice being informed, within 2 working days, that a patient from the practice has accessed the acute care services
- ✓ Patients accepting to enroll in Asthma Check
- ✓ A payment structure that allows all patients to enroll free of charge
- ✓ A communications and IT system that can inform, gather and share data, and allow for clinical and process audit

References

1. Masoli M, Fabian D, Holt S, et al. Global Initiative for Asthma (GINA) programme: the global burden of asthma: executive summary of GINA Dissemination Committee report. Allergy 2004; 59:469-478
2. Estimated from CSO Quarterly National Household Survey – Health Module 2007 and 2010 applied to 2011 Irish population data by appropriate age groups. Asthma Society of Ireland
3. Helping Asthma in Real Patients. The Harp Study Preliminary Report, July 2009

   I Kelly, P Fitzpatrick. Sub-optimal asthma management in teenagers in the midlands regions of Ireland. Ir J Med Sci DOI 10. 1007/s11854-011-0725-1
4. B. Elnazir, PJ Manning et al for the Asthma Demonstration Project Group. Attitudes to implementation of GINA asthma guidelines at Primary Care Level in the Republic of Ireland. Ir J Med Sci Volume 179, Supplement 12, DOI 10.10007/s11845-010-0593-0
5. Weiss KB, Sullivan SD. The Health Economics of Asthma and Rhinitis. 1 Assessing the economic impact. J Allergy Clin Immunol 2001; 107 (1):3-8
6. T Haahtela, LE Tuomisto, A Pietinalho, T Klaukka, M Erhola, M Kaila, MN Nieminen, E Kontula and LA Laitinen. A 10 year asthma programme in Finland: major change for the better. Thorax 2006; 61: 663-670
7. Manning P, Grealy P, Shanahan E. Asthma Control and Management: a patient's perspective. IMJ 2005; 98(10):231-2, 234-5
8. ESRI HIPE data 2000-2004 and 2005-2010
9. Central Statistics Office. Vital Statistics Reports 2002 to 2010
10. Global Strategy for Asthma Management and Prevention 2012; Chapter 4:56-60
11. Thomas M, Kay S, Pike J, Williams A, Rosen weig JR, Hilyer EV, Price D. The Asthma Control Test (ACT) as a predictor of GINA guideline defined asthma control: analysis of a multinational cross-sectional survey. Prim Care Resp J 2009:18; 41-9
12. Suissa S, Ernest P, Benayayoun S, Balzan M, Cai B. Low dose inhaled corticosteroids and the prevention of deaths from asthma. New Engl J Med 2000; 343: 332-336
13. Global Strategy for Asthma Management and Prevention 2012: Diagnosis and Classification; 17-21
14. BTS statement on criteria for specialist referral, admission, discharge and follow up for adults with respiratory disease. Thorax 2008; 63 (Suppl 1): i1-i16
15. Cates CC, Bara A, Crilly JA, Rowe BH. Holding chambers versus nebulisers for beta-agonist treatment of acute asthma. Cochrane Database Syst Rev 2003 (3): CD000052
16. BTS – SIGN Guidelines 2008, p 56: Section 6.3.1
17. Elnazir B, Manning PJ, Shanahan E, Ni Chronin M, O'Connor TM, Williams N, Forsythe R, Logan P, Coyne L, Guiney F, Holohan J. Electronic Patient Record as a Facilitator to Guideline Based Asthma Management. European Thoracic Society, Amsterdam 2011