A guidance document for setting up COPD Outreach Services for Healthcare Professionals

June 2020

NATIONAL CLINICAL
PROGRAMME RESPIRATORY

Integrated Care Programme for the Prevention and Management of Chronic Disease

Seirbhís Sláinte Níos Fearr á Forbairt | Building a Better Health Service

National Clinical & Integrated Care Programmes
Person-centred, co-ordinated care

icgp

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Abbreviations

CDM	Chronic Disease Management
HAH	Hospital at home
ED	Emergency department
AMAU	Acute medical assessment unit
AMU	Acute medical unit
ACSC	Ambulatory care sensitive condition
PRP	Pulmonary rehabilitation Programme
COPD	Chronic Obstructive Pulmonary Disease
AECOPD	Acute exacerbation of COPD
NCP	National Clinical Programme Respiratory
KPI	Key performance indicator
CNSp	Clinical Specialist Nurse
MDT	Multidisciplinary team
HCP	Healthcare professional

1.0 Background and Context

A key National Service Plan priority for 2020 is improving access to unscheduled care by reducing the demand on emergency departments, improving hospital processes and improving the management of delayed discharges. This process will involve working to redesign care to align with Sláintecare recommendations. This will be achieved by increasing integration between acute and community services and enabling patient care delivery closer to home.

The demand for acute beds is projected to increase unless there is realignment in models of care from acute hospital towards primary care. As recognised in Sláintecare, the 10 year cross political vision for the future of Irish healthcare services, improvement and sustainability of this is dependent on a shift from acute to primary care.

COPD is one of the most resource intensive diagnosis related groups in acute hospitals in Ireland (Sláintecare).

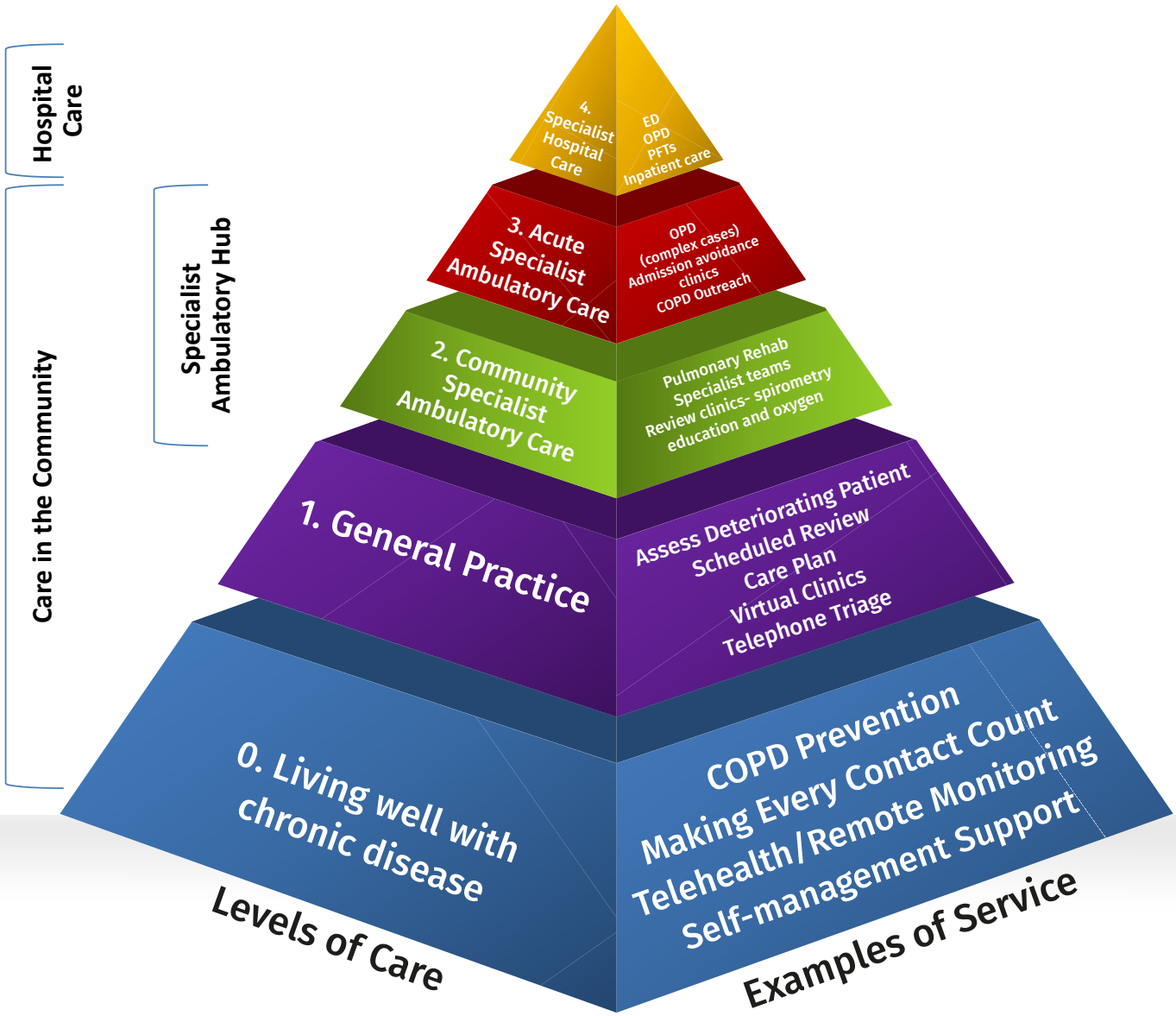
The COPD Chronic Disease Model (Fig 1) supports the integration of acute and primary care services with an increasing focus on primary care investment to reduce the pressure on acute services and deliver quality of care for patients delivered closer to home. This supports the shift of care towards the community called for in Sláintecare and prioritises services in the community.

The HSE "End to End Model of care for COPD" was published in 2019. This outlined the progression of an end to end model across the spectrum of care and into the enhanced community setting. Both the "End to End Model" and the "The National Framework for the Integrated prevention and management in chronic disease in Ireland 2020-2025" support the implementation of services and care pathways that support the delivery of ambulatory care services for COPD to reduce hospital admission rates and hospital bed usage.

1.1 Existing COPD Outreach services in Ireland

The first COPD Outreach services introduced through the NCP Respiratory were in 2014/2015. The sites were Cavan General Hospital, Connolly Hospital, Cork University Hospital, Our Lady of Lourdes Hospital Drogheda, Galway University Hospital, University Hospital Limerick, St Michaels Hospital, Dun Laoghaire, Mercy University Hospital Cork, Tallaght Hospital, St Vincent's University Hospital, Mullingar Regional Hospital, Letterkenny General Hospital and Wexford General Hospital. There were existing sites in Beaumont hospital and St James Hospital. These programmes support early supported discharge within 72 hours and also case management and admission avoidance. The services include home visits, Outreach clinics and pulmonary rehabilitation programmes. All services report their monthly KPIs to the NCP Respiratory (For totals for 2018 and 2019 see appendix 2).

Figure 1. COPD model for Integrated care



2.0 The Community Model

Community Healthcare Networks (CHN) will provide the foundation and organisation structure through which integrated care for COPD will be provided locally within the new Regional Health Areas (RHA). The CHN will support the GP- led chronic disease management framework.

Each CHN will cover an average population of 50,000 people. The networks are the structures to enable the multi-disciplinary staff and teams to work together in a more coordinated and consistent way in a defined geographic local community based on the assessed needs of the local population providing integrated care across hospital and community services.

Three geographically adjoined CHNs will act as a point of access to specialist ambulatory care teams (Hubs) within the community. The three networks will total approximately 150,000 populations. The three networks will have direct links to a local acute hospital service.

The CHNs together with the Chronic Disease Management Community Specialist Ambulatory Teams (Hubs) will provide specialist support to the GP in managing COPD in the community and ultimately preventing unnecessary hospital admissions, supporting early discharge and bringing care closer to home. The full spectrum of services that should be available to patients with chronic disease in any given network is outlined in Figure 1.

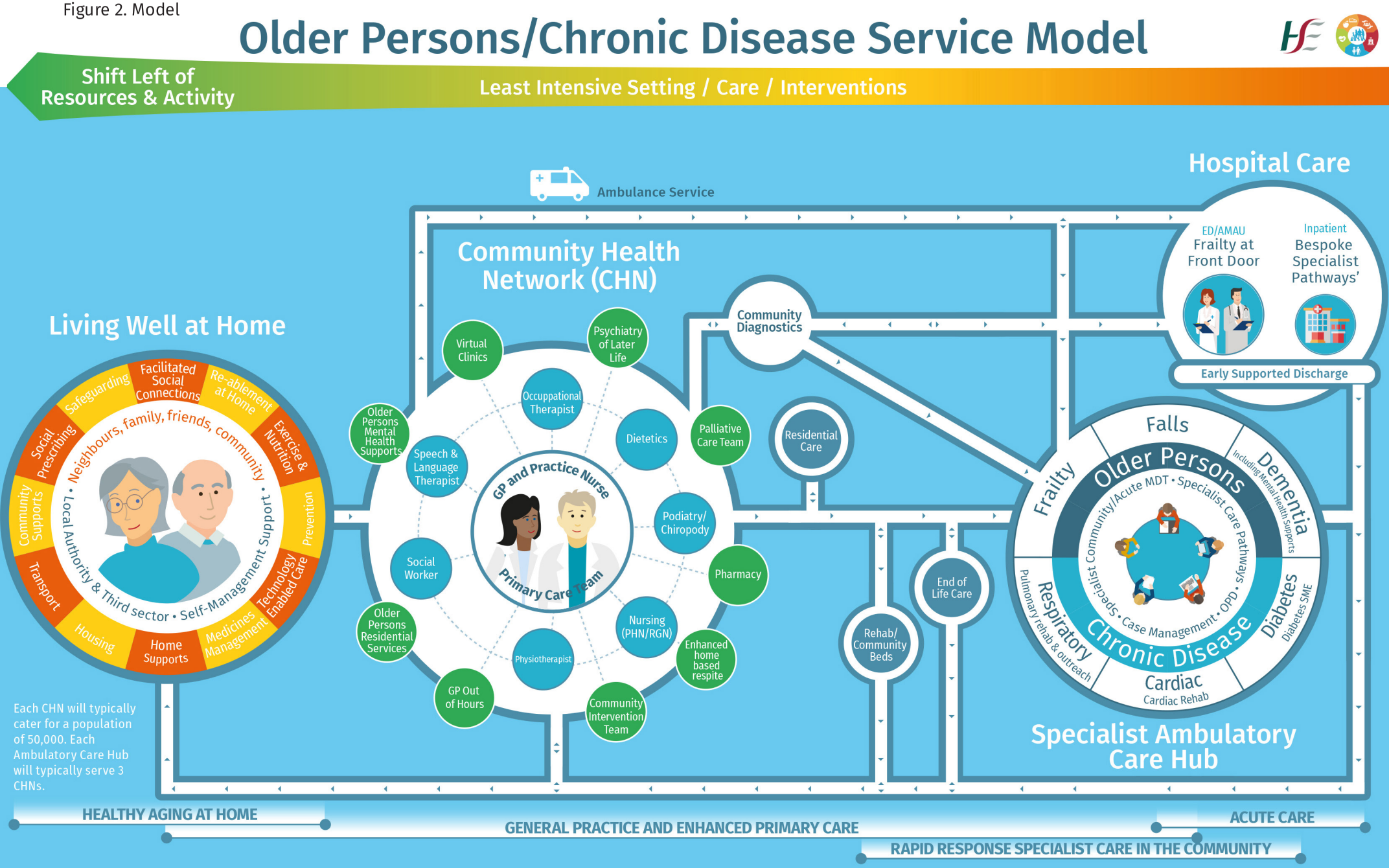
To improve access to COPD Outreach team they will have an integrated work flow between the community specialist ambulatory team (hub) and acute care. This Outreach team will provide services to their 3 mapped networks population. This will facilitate clear pathways to provide a continuum of care from including admission avoidance and early supported discharge for COPD in alignment with the NCP Respiratory End to End model of care.

2.1 Community COPD Outreach Team

The COPD Outreach teams are part of the Community Specialist team (hub) as well as acute care. The COPD Outreach team will be clinical leaders working beyond the hospitals and playing an indispensable role in building relationships and trust with GPs and the specialist ambulatory hub teams.This will support acute hospitals and services becoming more closely integrated with the specialist hubs and other forms of care. It will enable new ways of collaboration to improve the service delivered to patients. It will shift the focus and facilitated engagement in conversations about strengthening out-of-hospital care.

Care pathways will be developed in line with the NCP Respiratory and the “End to End Model of care for COPD”. The priority is to collaborate and integrate with other relevant specialist ambulatory services in the community hub to provide admission avoidance and early supported discharge to patients’ with an exacerbation or recent admission for an exacerbation of COPD, to enable them to regain respiratory functionality and the skills and confidence needed to manage their condition in the community (See figure 1 & 2 for pathways and models).

Figure 2. Model



3.0 COPD

3.1 Definition

COPD is a common preventable and treatable disease that is characterised by persistent respiratory symptoms and airflow limitation that is due to airway /or alveolar abnormalities usually caused by significant exposure to noxious particles or gases, in particular tobacco smoke (GOLD 2020). COPD is the fourth leading cause of death in the world but is projected to be the third leading cause of death by 2020. COPD represents an important public health challenge that is both preventable and treatable (GOLD 2020).

3.2 Diagnosis of COPD

Differential diagnosis may be difficult yet early detection and staging of COPD are important. As yet no single measure can give an adequate assessment of the true severity of the disease in an individual patient. For therapeutic and prognostic reasons diagnosis is made through a correlation of clinical and physiologic findings.

A diagnosis of COPD should be considered in any patient who has shortness of breath, chronic cough, cough with sputum production, over 40 years of age, frequent winter bronchitis, wheeze and/or a history of exposure to relevant risk factors especially tobacco smoking (NICE 2004;GOLD, 2020). The presence of multiple indicators would increase the probability of COPD diagnosis. True diagnosis and staging can only be confirmed with spirometry.

3.3 Prevalence, Mortality and Financial implications of COPD

In Ireland it is estimated that 500,000 people are living with COPD yet only 200,000 are diagnosed. As set out in the third National Healthcare Quality Report System (NHQRS) 2019, Ireland has the highest rate of hospital admission with COPD of any country in the OECD. There were 15,127 inpatient hospitalisations with a primary diagnosis of COPD in 2017, accounting for 3.9% of inpatient discharges (in those over 35). Furthermore, there is much variation in admission rates between various counties within the State.

Tobacco smoking is the most important risk factor for the development of COPD. Tobacco smokers have a higher prevalence of respiratory symptoms, lung function abnormalities and mortality from COPD than non-smokers. However, in most studies up to 10% of patients with COPD are non-smokers and many patients with COPD are ex-smokers.

Socio-economic status and social deprivation are also risk factors for both the development and progression of COPD. COPD is inversely related to deprivation. However, it is not clear how the components of deprivation exert their effects - whether this pattern reflects exposures to pollutants, infections, poor nutrition or other factors. There is an increasing recognition of the importance of factors in childhood influencing the development of COPD. Such factors include not only deprivation but also low birth weight, recurrent childhood respiratory infections and passive smoking. A comprehensive review of the epidemiology and factors that underlie the morbidity and mortality associated with COPD and other respiratory disorders is contained in The Respiratory Health of the Nation, 2018 produced by the Irish Thoracic Society.

3.4 Financial Implications

Associated with the disease burden of COPD outlined in the above section, is a significant economic and social cost. The impact of COPD on healthcare facilities is profound, but it also has wider social and economic effects. For the individual patient, COPD is associated with a significant economic burden in terms of the direct medical costs associated with it and also indirect costs including care provided by family members.

3.5 Hospital Utilisation

Patients with severe disease may suffer frequent exacerbations requiring medical attendance, potential hospitalisation and severe disruption of their quality-of-life. Data for admissions to acute public hospitals are of use as proxy measures of disease burden especially for those at the more severe end of the COPD spectrum. There is increased recognition that other comorbidities may complicate the management of patients with COPD and can have a major impact on quality of life and survival.

4.0 Acute Exacerbations of COPD (AECOPD)

4.1 Defining the Term "Exacerbation"

An Acute Exacerbation of COPD (AECOPD)
• A change in the patient's baseline dyspnoea, cough, and/or sputum that is beyond normal day-to-day variations. • The patient typically experiences increased shortness of breath, increased sputum volume and increased sputum purulence. • It is acute in onset and may warrant a change in regular medication.

The most important risk factors associated with repeated exacerbations of COPD are the occurrence of previous exacerbations and continued smoking. It should be possible to reduce both frequency and severity of exacerbations by reducing exposure to risk factors and supporting patient education and self-management. The elements which are of vital importance in both the prevention and /or amelioration of exacerbations include: patient education, smoking cessation support, vaccination (influenza and pneumococcal), appropriate medications, and pulmonary rehabilitation which has documented benefit at all stages of disease and in patients recovering from an exacerbation. Likewise, self-management plans for those with more severe illness may help COPD patients deal with exacerbations at home, often without requiring medical input (Fig 2).

Level 1 and 2
Based on their self-management plan, the first call by the patient is usually to the GP who will assess and treat the patient in the surgery or at home, unless or until there are characteristics of a severe exacerbation at which stage the GP will refer the patient to the hospital for further treatment.

Most patients with an exacerbation of COPD can be assessed and treated at home and managed in the community by their GP and outside clinic hours in GP out of Hours services (Level 1) where they will be managed based on National Clinical Guidelines.

Level 3 and 4
If indicated, patients will be referred to ED, AMU, or AMAU for assessment. For all patients presenting to ED/AMU/ AMAU with an exacerbation of COPD, the COPD admission bundle should be followed. This is an aide-memoire to ensuring necessary interventions take place (resource pack). The National Clinical Programme for Respiratory recognises that local services may tailor the contents of this Acute Management Bundle to local needs.

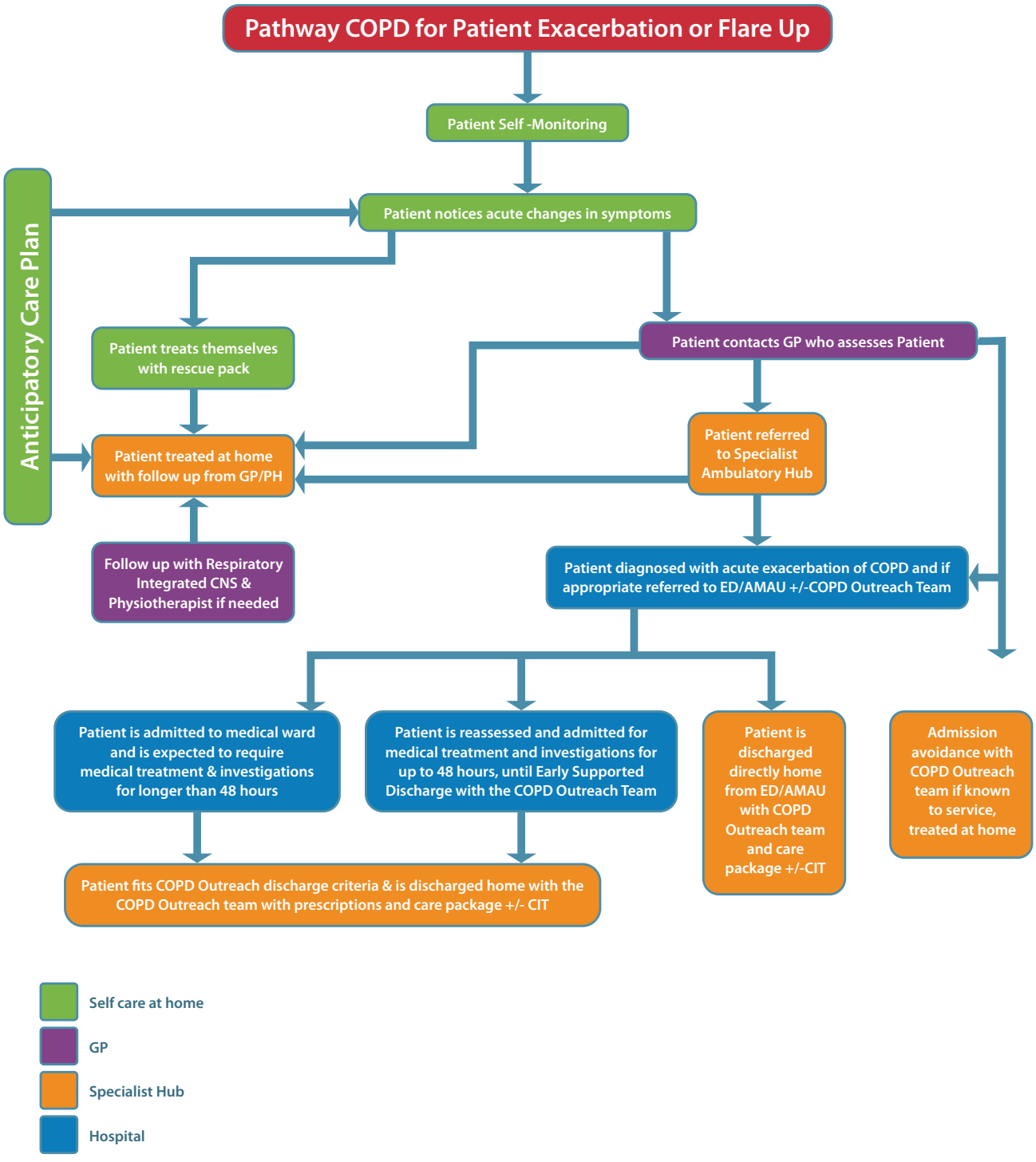
The bundle includes a recommendation to consider Outreach (Level of Service 3) referral if such as service is available. Likewise, the proposed National Discharge Bundle specifies how patients are managed post discharge (resource pack).

As a priority, patients who may be suitable for Outreach services should be referred to such a service where available (Level of Service 3). Otherwise if the responsible clinician decides the patient is suitable for discharge home from ED or AMU/ AMAU, patients should be advised to attend their General Practice service (Level of Service 1) for COPD review within 2 working days of discharge. The discharge letter should be forwarded to the GP practice from the ED/AMU/ AMAU.

In locations where there is an Integrated Respiratory Clinical Nurse Specialist (CNSp) service (Level of Service 2), these patients will be prioritised for referral. Likewise for those discharged after attending ED or referred to MAU. On discharge a patient admitted with AECOPD should have a follow up review with a CNSp in the patient's general practice or the respiratory hub where available.

This may be required because of the severity of the exacerbation, the need for therapies that are not available to that patient at home (such as oxygen or nebulised bronchodilators), or the need for specialist interventions such as non-invasive ventilation. Outreach services should be consulted on potential candidates using Outreach referral criteria (Level of Service 3).

Figure 3. Management of exacerbations



5.0 Introduction to COPD Outreach Services Pathways

An exacerbation of COPD is considered an Ambulatory Care Sensitive Condition (ACSC) meaning it is an acute or episodic condition where appropriate and timely community care can prevent disease and/or hospital admission (McDarby 2019).

One of the common ambulatory care pathways for prevention of admission for COPD is Outreach. Outreach facilitates early discharge from hospital and therefore reduces the length of hospital stay.

Hospital admissions for acute exacerbation of COPD are significant events for patients and are sources of significant cost in the management of COPD. The opportunity to treat suitable patients at home instead of in hospital is attractive from an economic and organisation perspective.

COPD Outreach is a dynamic process whereby the patient can be assessed and accepted into the programme in the emergency department under trained health care professionals for a condition that would otherwise require acute inpatient care. Admission avoidance/Hospital at home provides each patient with an active customised discharge package involving home visits and review calls as clinically indicated over a 2 week period. In the UK eligibility ranges of 30-35% COPD patients in ED with a readmission rate of 10% have been reported (BTS 2007 Intermediate care).

There are 2 pathways for Outreach

- **Admission avoidance /Hospital at home**
- **Assisted discharge**

Both pathways can aid the management of lower acuity COPD patients at home and are considered an alternative way of caring for patients with exacerbations of COPD who would otherwise need to be admitted to hospital.

The terms used include “admission avoidance“, where admission is avoided following GP referral, “early supported discharge” or “assisted discharge”, where a short initial admission is followed by home care and after GP referral (British Thoracic Society Guideline Development Group, 2007). Both NICE (2004) and the BTS (2007) incorporate all cases and consider hospital at home as a treatment modality which encompasses early supported discharge and admission avoidance. In brief the Outreach Team will visit the patient at home for a set period of time, guided by the type of “discharge” programme the patient is enrolled onto based on the relevant guidelines.

5.1 Admission avoidance/ Hospital at Home Model

Hospital at Home [HaH] is a specific subtype of intermediate care, where active treatment is provided by healthcare professionals in the patient’s own home for a condition that otherwise would have required hospital care, this treatment is always for a limited time period (Davis et al., 2000).

As a consequence of the economic burden of AECOPD, research shows that for a select proportion of patients with COPD, HaH care is safe, well tolerated and an economic alternative to hospital admissions (Gravil et al., 1998; Davis et al., 2000 and Skwarska et al., 2000). The benefits to the patient include being able to recuperate in their own environment with family support and the reduced cost associated with hospital visits.

Following the initiation of a COPD Outreach programme in an Irish hospital based on a HAH approach Murphy et al. (2002) showed a reduction in average length of stay from 10.1 days to 2.6 days, on a one year review of service. Patients were followed for a period of three months post discharge over which time MRC dyspnoea scores, quality of life and spirometry results all significantly improved and improvements were maintained.

HaH schemes provide for high quality, professional, holistic patient focused service in the patient's home, in an attempt to improve the patient's quality of life and increase their coping strategies and social functioning skills or ability. This bridges the gap between hospital and community by providing a safe transition home. Use of HaH intervention teams following AECOPD has gained favour over the past six years. In 2004, Ram et al. concluded that HaH was a safe and effective treatment for one in four patients with exacerbations of COPD (Ram et al., 2004). The NICE (2004) guidelines for AECOPD management included appraisal of this scheme. As a result the British Thoracic Society Guideline Development Group issued guidelines on intermediate care – Hospital at home in 2007 (BTS, 2007).

There are also many variances in the literature in the entry criteria for acceptance of patients onto "Hospital-at-Home" programmes (Fig 3). A number require overnight admission prior to discharge, others aim to prevent admission. Similar variance is seen in protocols for patient follow-up. Several follow the patient for an extended period of time providing multiple home visits, while others afford one to two home visits, whilst inclusion in pulmonary rehabilitation was part of a hospital at home programme in one particular publication (Davies et al., 2000; Hermiz et al., 2002; Murphy et al., 2002; Coultas et al., 2005; Casas et al., 2006 and Sridhar et al., 2007).

Figure. 4 Summary of HAH approaches

Table 3 Summary of HaH approaches in COPD

	Admission avoidance **Direct GP referral to respiratory unit for assessment**	**Hospital referral for admission**	**Early supported discharge**
Setting	Outpatient Clinic	A&E admissions unit	Review of COPD inpatients
Expected workload	High, difficult to predict, inappropriate referrals likely	Between one fifth and one sixth of all COPD admissions depending on the hours of operation of the service	Over one third of admissions for COPD
Proprotion suitable for HaH	Approximately two thirds	One third	Over one third
Advantages	Popular with patients and GP's	Reduces hospital bed-stays	Allows planned assessments and uses HaH resources economically. Allows period of clinical stability which increases eligibility for HaH
Disadvantages	May generate unnecessary work. Not examined in randomised controlled trials	Recruitment limited by hours of operation. Requires large throughput of patients to be time efficient	Does not reduce admission rates

Source: Intermediate care - Hospital at Home in COPD: Guideline, British Thoracic Society, 2007

Despite the variance outlined between programmes, conversely there were also consistencies, which included;

- Comprehensive assessment of the patient, stage of disease and co-morbidities.
- Education on disease management, vaccinations, medication knowledge, assessment and education of administration techniques for pharmacological therapies.
- Agreement on a patients medication and a care plan between the specialist nurse and the patients team of doctors/ or primary care team.
- Patient accessibility to a specialist nurse in a secondary care facility or primary care team.
- Education on early exercise, chest clearance, smoking cessation and coping mechanisms.

All of these programmes have demonstrated significant benefit in terms of reduction in re-exacerbations, re-admissions and overall cost effectiveness (Davies et al. 2000, Hermiz et al. 2002, Murphy et al. 2002, Coultas et al. 2005, Casas et al. 2006 and Sridhar et al. 2007).

5.2 Early supported discharge

The introduction of an Outreach service to a hospital would be expected to reduce the length of stay for an exacerbation of COPD by 2 days. Approximately 1 in 4 patients would be suitable for early supported discharge and consequently a reduction in bed day usage. There is also the opportunity to develop a care management programme as outlined below.

Case Management

Following the initiation of this service it may become evident that particular patients require continual support due to continual presentation to the hospital's Emergency departments. These patients may remain on the services "Case Management" programme. This programme type, will allow increased contact with the patient to minimize repeat ED presentations. Once initial demographics and an initial early discharge programme have been completed, the team should remain in contact with the patient via telephone to ensure management and treatments are effective. Likewise these patients will have the ongoing ability to contact the team should they have any concerns about their respiratory status.

5.3 COPD Outreach Services

Despite optimization of medical management, care-giving interventions, education and back up support and assistance, patients with COPD exacerbations continue to present to hospital for admission here in Ireland. Consequently, there is a need for alternatives for COPD patients, to aid management of their condition in the comfort of their own home with backup support of a designated COPD team. These options should not only aim to control and alleviate symptoms and complications of AECOPD but also teach patients the necessary skills to identify early signs of deterioration in their condition, monitor it, manage it and thus reduce the number of detrimental exacerbations of their disease (Bourbeau et al., 2003, 2006 and Bourbeau, 2008).

This document outlines how to implement a Respiratory Outreach programme. The priority of the programme is to provide early supported discharge options to patients who present with an uncomplicated exacerbation of their COPD.

5.4 Aim of the COPD Outreach Service

- To provide Hospital at Home [HaH] by a COPD Outreach team for selected patients where active treatment is provided in the patient's own home for a condition that otherwise would have required hospital care
- To provide an "Early Supported Discharge" programme by a COPD Outreach Service for selected patients with uncomplicated AECOPD within 72 hours of admission that would otherwise require acute in-patient care.

5.5 Objectives of a COPD Outreach Service

- Reduce the number of admissions, ED presentations and hospital length of stay.
- Facilitate a safe, planned early/ assisted discharge.
- Provide patient education including the ability to identify exacerbation signs and symptoms and instigate self-management plans.
- Educate patients and their care givers on inhaler technique and medication management.
- Facilitate and refer to smoking cessation.
- Encourage independent functioning, improving quality of life.
- Develop integrated care for COPD patients by working collaboratively with Specialist teams in the hub and the GPs and primary care services.
- Individualised exercise programme in patients home and onward referral to Pulmonary Rehabilitation programme.
- Provide objective measurement of the service using clinical audit and outcome measures. GP feedback should be sought locally as part of qualitative outcome measures.

6.0 Interdependencies & Integrated Respiratory Services

Integrated services deliver more effective multi-disciplinary team working and will support the provision of the right care, in the right place, by the right people, at the right time. This will be achieved by supporting the provision of GP-led Primary Care through staffing of CDM Community Specialist Teams (Hubs) with multidisciplinary teams and providing access to acute specialist team input, as required.

Integrated services also reflect the understanding that health and social care services are performed by co-productive partnerships and interdisciplinary collaborations.

Hospitals and community partners will need to work closely together to prevent avoidable hospital admissions and enable people to remain safe and healthy in their own homes. Facilitated early discharge is an important and appropriate focus for integrated care, as discharge is often a point at which care is highly fragmented.

The overall goal is to allow people to remain independent in their own home for longer, or to be discharged from hospital at an earlier stage in their recovery. By strengthening the interface between the hospitals and community-based support, both will be better equipped to manage demand and improve patient flow in a way that will be of mutual benefit both to patients and to the healthcare settings.

COPD Outreach is inter-twined with other respiratory services including the specialist ambulatory hub clinics such as Oxygen Assessment and Review Clinics, Pulmonary Rehabilitation, local Community Intervention teams and Palliative care services. Together they possess the ability to support the patient and intervene promptly through rapid access clinics in the presence of a flare up or exacerbation of their disease.

6.1 Integrated Respiratory Clinical Services

One of the aims of the respiratory services is to develop integrated service models that span organisational boundaries. It is envisioned that patients will be active partners when accessing these services.

The COPD Outreach team will work as part of a multi-disciplinary team, thus creating opportunities for interaction and mutual learning between acute and community professionals, successful partnership and working between organisations.

Working together the COPD Outreach, Respiratory Integrated team, Pulmonary Rehabilitation team and the diagnostic team can identify **“at risk patients”** and collaborate with GPs and Consultants and other specialists to ensure pathways are in place for admission avoidance, as well as essential readmissions where indicated.

Admission avoidance can be achieved by providing direct access to patients experiencing exacerbations of their respiratory disease through **Rapid Response Teams** and **Rapid Access Clinics** (both including respond rapidly to requests for help from GPs) . This will guide the patient through their exacerbation management.

This risk stratification will involve aligning the multidisciplinary teams with local GP practices, allowing interventions agreed at the team meetings to be co-ordinated with GPs across the local area.

Patients with respiratory disease at risk of suboptimal outcomes can be identified proactively and managed by an integrated team and improve outcomes without the need for hospital referral.

Having one integrated respiratory team will also give the GPs a single point of access to seek the advice of multidisciplinary teams and request support from specialist teams who are able to visit patients in their own homes.

As well as admission avoidance another pathway in the Integrated Respiratory Service is the **Active Recovery Pathway.** Patients needing rehabilitation support after discharge from the acute hospital or recovering at home are referred into an active recovery pathway. This service is collaborative with interdisciplinary referral and delivered by the pulmonary rehabilitation team or the relevant team member at home.

Another aspect of the respiratory network is **"collaborative clinics"** aiming to improve outcomes for more complex patients. This clinical intervention may consist of collaborative clinics at the patients' own GP surgery or in the specialist hub. This will facilitate scheduled case reviews when required.

A further aspect of the Integrated Respiratory service is the ability to collaborate between services relation to discharge planning, on-going patient education and self-management planning when appropriate.

The COPD Outreach team can refer the patient on for further intervention and follow up to the Integrated CNSp or Physiotherapist. The COPD Outreach team can collaborate with the Pulmonary Rehabilitation team to identify patients post exacerbation for fast tracking for rehabilitation in line with International guidance.

A pathway to refer to smoking cessation advice and for health and wellbeing advice will also be in place. This will ensure that patient care and flow is not fragmented.

The Integrated Respiratory Service also allows for shared learning interorganisationally, between primary and secondary care, and interdisciplinary within the multidisciplinary teams. It will also facilitate case conferences and MDT meetings.

7.0 Governance of COPD Outreach Services

COPD Outreach is a Consultant –led service involving a multidisciplinary team of health care professionals. The design and implementation of a COPD Outreach service requires clear leadership, management, governance and accountability to ensure the quality and delivery of a safe patient focused service. The Model of Care for Chronic Disease describes the delivery of services through an integrated service model, with services being provided in the community but governed as an integrated service between hospital and community teams. The National Clinical Programme for Respiratory "End to End Model of Care for COPD" combines these services under an integrated governance arrangement with common standards, improved access for patients and achievement of good clinical outcomes.

7.1 Operational Governance for the overall service

The operational governance of each service lies with the CHN Manager/Network manager.

The Network Manager will coordinate the integration of community healthcare services within the Network in response to the needs and requirements of the population.

7.2 Clinical Governance of service

Lead consultants in the area of COPD and asthma will have a specific remit to support the COPD Outreach service design, implementation and clinical governance and aligning with the hub model, whilst also ensuring service design in key pathways is aligned with deliverables. The lead consultants will cover the three CHNs served by their Chronic Disease Management Community Hub.

7.3 Operational governance

The Operational Lead for integrated clinical care services for CDM will have a remit to support the delivery of key enablers including workforce recruitment, data to drive service improvement, operational function and reporting role to relevant heads of care in their CHO. This individual will also be tasked with overseeing the operational function of the local steering group. The Operational Lead will ensure an interdisciplinary approach, whilst also monitoring case load and will have a reporting function to the Primary Care Service Manager (General Manager) in the Community

7.4 Professional Governance

All nursing and health care professionals who work in the CDM Community Hub continue to report to their respective professional line managers based within the community will continue for the purposes of professional registration and scope of practice requirements. Individual professional governance is per discipline.

8.0 Role of COPD Outreach Team

It is important that the defined roles and responsibilities for all staff involved in COPD Outreach services are integrated into the existing governance structures within the organisation with clear reporting lines. Each site will be required to inform the programme of their structure with named roles, responsibilities and accountabilities for those roles.

8.1 Individual Roles

1. The **Consultant Respiratory Physician** will be responsible for the overall clinical governance of the COPD Outreach Programme. He/she will lead the specialist multidisciplinary team. He/she will be a medical leader and act as a resource for advice on the management of COPD patients and complex cases to referrers and the MDT. The consultant may be working and coordinating teams across primary and secondary care settings to promote integrated care and self-management for respiratory patients.

2. The role of the **Operations Manager** for Chronic Disease Integrated Care at hub level is to ensure the service is safely staffed by specialists in respiratory care with competencies and skills mix appropriate to the needs of the programme.

3. **The multidisciplinary team (MDT):** The team may involve a number of disciplines described in this NCP document who with appropriate training and adequate resources will deliver a COPD Outreach which meets the volume of referrals and which allows timely access.

a. While roles may vary or overlap depending on availability of MDT members, the core team includes a Respiratory Consultant, Clinical Specialist Respiratory Physiotherapist, and Respiratory Clinical Nurse Specialist. Other professionals depending on local resources may contribute to COPD Outreach supported by:

- Documented roles and responsibilities.
- Interdependencies identified and formalised as required.
- Documented communication structure: operational meetings, governance meetings, staff meetings, risk register, reporting, and audit and quality improvement, research.
- Data collection including National KPIs , and data to support patient referral, enrolment and programme audit, procedure for storage of data including backup, retention archiving and encryption.
- Reporting structures including annual audit.

4. **Managerial and administrative support:** The administrative elements of a programme are considerable in terms of time required to contact patients, offer appointments, and follow up etc. and this role should be undertaken by clerical staff under the direction of the clinical team.

8.2. Dimensions for all COPD

Outreach Team Staff
To work within the hospital and community setting as part of the Outreach team, in consultation with the Respiratory Physicians and GPs and other relevant clinical services.

8.3 Knowledge, Skills and Experience Required

Essential Skills

The nursing post holder must be

- On the live register with An Bord Altranais (General Division).
- Work within the scope of practice and have a minimum of 5 years' experience post registration including 2 years' experience with patients with chronic lung difficulties.
- Hold a post graduate qualification relevant to respiratory medicine.

The physiotherapist post holder must be

- On the live register with CORU.
- a minimum of 3 years post registration experience in respiratory care notably in chronic lung disease.

BOTH MUST:

- Demonstrate a high level of communication and interpersonal skills.
- Ability to practice safely and effectively fulfilling his/ her professional responsibilities within the scope of practice.
- Demonstrate the ability to work both in a team and in isolation.
- Have experience in leading a multi-disciplinary team.
- Full clean driving license with access to own transport and indemnified insurance.
- Computer skills.
- Have postgraduate Certificate in Spirometry for Healthcare Professionals or be willing to undertake this training.

8.4 Recommended key skills for members of the COPD Outreach teams:

- Ability to take a comprehensive clinical history.
- Proficiency in assessing clinical condition.
- Problem solving skills.
- Familiarity with pharmacological and non-pharmacological approaches in managing COPD.
- Knowledge of current guidelines in COPD management.
- Excellent communication skills.
- Excellent team working skills.
- Ability to perform chest auscultation.
- Interpretation of a chest radiograph.
- Oxygen assessment.

8.5 *Useful but not essential team member skills:*

- Venous and arterial blood sampling.
- Performance of basic interpretation of an ECG.
- Order a chest x-ray on completion of nationally approved training (nursing & physiotherapy).
- Prescribe medications under a collaborative working agreement having completed nationally approved training (nursing) and physiotherapy in the future.
- Understanding of airway clearance techniques.

Desirable skills

- Experience/demonstrated interest in clinical audit and research.

***Adapted from the BTS recommendations on key skills for team members 20078.6 Required.**

Managing operations:
Use agreed inclusion/exclusion criteria to assess COPD patients for suitability for early supported discharge.

- To plan and implement the care package from hospital to home.
- To follow best practice guidelines and protocols.
- To promote an efficient holistic service, that is comprehensive and understood by patients and carers.
- To promote research based practice.
- To be a resource of specialty advice for hospital and community staff.
- To contribute to patient education and information.
- To contribute to audit and clinical research.

Managing Finance:
- To promote a cost effective service for patients.
- Identify value for money initiatives.

Management of People:
- To create, maintain and enhance effective working relationships with health care professionals in hospital and the community.
- To contribute to developing an effective communication system for disseminating good practice for COPD patients to other health care professionals.

Management of Information:
- To contribute to a system that will allow for continuing patient outcome/performance management of COPD patients by maintaining an up-to-date data base, statistical and performance reporting.
- To contribute to the evaluation of information effectively to improve the quality of service provided.
- There should be appropriate communication to GPs after two weeks and then on full discharge.

Communications and Working Relationships:
- All medical, nursing & HSCP staff in hospital and community.
- Patients, relatives and friends.
- NCP Respiratory.
- Professional bodies.
- Statutory and voluntary agencies.

9.0 Hospital Management Support

Supports will be required from Hospital Management to address shortfalls in the service and to ensure adequate and appropriate staffing for the service. They are responsible for:

- Assigning required resources to COPD Outreach Services.
- Holding Quarterly reviews of the service with the team.

10.0 Statistics Reporting

Each Outreach Service is required to present statistics to the National Clinical Programme for Respiratory on a monthly basis. The 2020 Performance Matrix is available in Appendix 1.

11.0 Resources required for COPD Outreach

The proposed structure of the team is as follows:

1) Respiratory Consultant Clinical Lead (and NCHD team).
2) Respiratory Nurse (CNSp) x 1 WTE.
3) Respiratory Physiotherapist (Clinical Specialist) x 1WTE.
4) Clerical Administrator (0.5 WTE).

12.0 Cost of COPD Outreach Services

12.1 Recurring Costs

The costs listed in the following tables may not be incurred in all instances. The local site will need to determine what items of cost apply to them for capital and non-pay items. Costing's are subject to change and are a guideline only.

COPD Outreach Set up Costing	
Estimated recurring costs	
Staffing requirements	
Respiratory Consultant (x)	existing
Respiratory Nurse Specialist (1 WTE)	€64,471
Senior Physiotherapist Respiratory (1WTE)	€65,541
Clerical Staff grade 111 (0.5 WTE)	€17,861
	€147,873
Other recurring costs	
IT Laptop & Phone	€2,000
Travel expenses	€5,000
Other	€1,500

Non Recurring Costs	Approx figures only
Spirometry Training course	€500
Spirometry Machines	€4,500
Calibration syringe	€250
Consummables	€1,000
Medical equipment	
Dynamap x2	€4,000
Thermomenter x2	€200
Stethoscopex 2	€200
Pulse Oxymetry x 2	€600
Nebulisers x 6	€500
Office equipment	
Colour printer	€1,500
Desktop computer	€1,000
Other office equipment	€1,500
Total	**€15,750**

13.0 Accessing COPD Outreach Services

13.1 Hours of Operation

Hours of operation will be agreed locally. Instructions for patients around out of hours contact to be derived locally and delivered in conjunction with local CIT (if available), GP and ED and out of hour's services. A direct line should be provided for GPs who wish to contact the service during these hours.

13.2 Support Network

New teams will liaise with the National Outreach group, who will be able to provide support. New services will be linked in with an existing service based on geography and type of hospital i.e. rural/urban setting. Mentor sites will continue to provide support by phone.

Newly appointed team members will need to visit one of the fully operational services to observe the operational process, patient identification assessment and patient review in the home in action. They will need education on clinical assessment, use of the assessment evaluation sheets and instruction in the identification of patients requiring readmission and the required steps to take in that instance.

13.3 Patient identification/ referral process for ESD

COPD Outreach Services may be accessed by patients in the following way:

a) Patients will be identified by the team each morning in the Emergency Department, AMAU or relevant wards for assessment for inclusion in the programme.

b) Referrals can also be made by any MDT member (medical, nursing & HSCP) by way of local referral systems (Outreach bleep/phone)).Patients will be assessed for suitability for early discharge within **72** hours of admission by the medical team.

c) Referral from Respiratory OPD clinics – respiratory teams and respiratory CNS & ANP's.

d) GP direct access for patients already known to the service. A direct line should be given for GPs to access service. Service needs to be responsive to avoid ED attendance. Any referrals required must be by electronic referral.

e) Patients may self-refer if already known to the service. Outreach team may advise they have a review with their GP prior to visit depending on the query.

The following patients will be suitable for early supported discharge:

- fulfill the Inclusion criteria for early supported discharge, set down by the BTS IN 2007(see 13.4).
- have a diagnosis of COPD.
- give their CONSENT.
- are admitted for less than 72 hours.
- if over 72 hours individual services may wish to consider assisted discharge.

13.4 Selection Criteria for Early Supported Discharge for COPD Outreach Services

Inclusion Criteria	Exclusion Criteria
• Obstructive spirometry and FEV 1 < 80% predicted, • MMSE >7 • Systolic B/P > 100 mmHg • ABG's Ph > 7.35, PO2 > 7.3 kPa, PCO2 < 8 kPa, (on room air unless on oxygen therapy) • Total WCC 4 – 20 * • Within 0 – 72 Hrs of presenting to hospital. (ESD only) • Access to telephone • Adequate social support	• Suspected malignancy • Pneumothorax • Pneumonia CURB 3 • Uncontrolled LVF • Acute ECG changes • Requires full time care • Insufficient home care • Requires I.V. therapy (unless CIT available) • Type I Diabetes (if BSL uncontrolled) • Acute psychiatric, drug or alcohol-related issues

Based on BTS guidelines for HaH 2007

13.5 Patient selection for Admission avoidance

Admission Avoidance refers to a programme whereby patients are referred from the Emergency Department (ED), Outpatient Department (OPD) or General Practitioners (GPs) in the community to the Outreach Team for home visits to support the patient during an exacerbation of their chronic respiratory condition. Outreach staff will provide "hospital at home" care through home visits and telephone support in the community for a defined period of time.

13. 6 Referral Process for Admission avoidance: Referrals from GPs

- Referrals are accepted (daily times and days to be decided locally).
- Access by telephone must be in real time and via a direct line (while the patient is still in the room with the GP). If this is not available, the GPs may have no option but to send person to ED.
- Referral form will be via healthlink where possible. Where this is not possible referring GP must complete the GP referral form email or fax this form to the Outreach team.
- Referring GP must telephone the Outreach team and speak to a member of the team.
- Referring GP must arrange for a prescription for the referred patient.

13.7 Admission Avoidance Criteria

The team will provide home visits to manage acute exacerbations of COPD in the community.

For ADMISSION AVOIDANCE home visits please ensure that patient meets the following inclusion and exclusion criteria:

Patients are suitable for admission avoidance home visits if the meet all of the following Inclusion Criteria		Yes
(1)	Confirmed diagnosis of COPD and patient known to the service	
(2)	Agreement by patient and carer / family to home visits	
(3)	Suitable social circumstances for home nursing (must have access to telephone)	
(4)	Appropriate degree of home support if living alone.	
(5)	Resides in catchment area	

Patients are Not suitable for admission avoidance home visits if they meet any of the following Exclusion Criteria		**NO**
(1)	Suspected underlying malignancy	
(2)	Suspected PE, MI, CCF	
(3)	Requirement for IV therapy (unless community IV's arranged)	
(4)	Cognitive impairment that prevents self-care (unless sufficient care provided by carer)	

14.0 Delivery of COPD Outreach Services

14.1 Database of Patients who are eligible

A full data base will be maintained of patients reviewed for possible inclusion in the programme, including those assessed, accepted and also those who did not meet criteria giving a rationale.

It is also anticipated that the new COPD Outreach team will maintain an up to date data base of all recorded patient information over the course of their inclusion in the programme. Thus audits of service provision can be facilitated

14.2 Components of Hospital assessment based on GOLD Guidelines

- Patient Demographics
- Reason for current presentation, Risk Factors for COPD development.
- PmHx, Medications and compliance etc.
- COPD History.
- Admissions.
- Baseline Spirometry / ABG's.
- Severity Grading, Based on Spirometry and GOLD definition of disease severity.
- Smoking history.
- Vaccines.
- Comprehensive Social History.
- Objective Examination, vital signs.
- Vital signs.
- Respiratory rate and able to talk full sentences.
- SaO2 and ABG.
- (Respiratory Failure :Type I or Type II; compensated or decompensated).
- Bloods.
- Hb, WCC, Neutrophils, U&E, CRP.Sputum C+S.
- Chest X-ray.

- ECG (no new ischemic changes and no tachycardia).
- Previous CT-scan.
- Previous Spirometry.
- Subjective Examinations, Borg, MMRC and Health Related Quality of Life questionnaires.
- Patient Knowledge of COPD.
- Medication Compliance/inhaler Knowledge.
- MMSE if deemed necessary.
- Assessment of known psychological, drug or alcohol issues which may deem the patients unsafe to visit at home.

14.3 COPD Outreach Package of Care

- A member of the Outreach team visits patients daily for the first three days, at the discretion of the Team member. The patient may receive a prescription of oral antibiotics and/or Steroids, bronchodilators from the medical team on discharge.
- The patient will receive a visit at two weeks and again at six weeks.
- Nebuliser, if patient does not already have one and medically indicated.
- At each visit a team member performs a clinical assessment, records vital signs, chest auscultation the patient also receives education on medication and disease management and vaccination.
- Smoking Cessation Advice/ Intervention, prescription for NRT if patient requests.
- Medication Compliance, inhaler technique is assessed.
- Assessment of cough, sputum production, colour, etc.
- Individualised self-management plan is discussed and given to each patient.
- Breathlessness management including airway clearance techniques, pacing strategies as indicated.
- Individualized home exercise prescribed by the physiotherapist.
- Patient remains part of the Consultant Physician's responsibility until discharge back to the GP at day 14 (early discharge programme only).
- A "REAL TIME" Discharge summary should be provided to the GP at this point. Direct contact details should be provided on the discharge summary, should the GP want to contact the service for clarification or admission avoidance.
- Referral to Support Services if indicated, Public health nurse for provision of Home Help, meals on wheels, Community HSCP's, Community palliative care service, Social prescribers.

- If appropriate the patient will be referred to Pulmonary Rehabilitation.
- Referral for Oxygen therapy assessment or to a Respiratory clinic.

For the first two weeks post discharge clinical responsibility for the patient remains with the Clinical lead Respiratory Consultant for the service. The patients G.P must be informed in real time in writing of their inclusion in the Early Discharge programme at patient discharge form hospital and acceptance onto the programme. If the Outreach team has concerns about a patient's progress, their care is discussed with the Respiratory team or they can be referred to the Rapid Access Clinic (fig 2).

A detailed real time discharge summary will be forwarded to the patients G.P. at two weeks and then a comprehensive discharge summary at 6 weeks.

All details of the visits are recorded in a patient database.

14.4 Pathways for patient who deteriorates?

- Contact number of Outreach Team is provided to enable patients contact the service if they have concerns about their respiratory status (within service hours outlined in patient information leaflet and whilst enrolled in the programme).
- Ongoing collaboration with respiratory team re patient's condition.
- Consider emergency referral to Rapid Access Clinic if deterioration.
- Always include instructions for patients around out of hours contact to be derived locally and delivered in conjunction with local GP, ED and out of hour's services.
- Readmission can be triggered if essential through ED, by patient or Outreach team or GP through discussion with Outreach team via a direct line.
- All actions must be responsive with timely access.

15.0 Implications to Clinical Practice

Health care professionals have a clear responsibility to the patients in their care and should ensure the standard and delivery of that care is in accordance with best clinical practice. This is relevant not only in planning care but also in re- evaluating patient outcomes, and demonstrating the ability to modify practices and interventions in response to the identified needs of individual patients. This document outline how with minimal resources Outreach programmes can provide easily accessible support, education, health promotion and guidance to COPD sufferers with positive impact on their rates of exacerbation and hospital admissions but more importantly patient governance.

15.1 Implications for Management

These programmes involve no costly management choices; consume minimal physical resources and generally only two to three staff.

Thus it is not outside the bounds of possibility that many key recommendations could be successfully addressed without any major drain on either human or financial resources. What it would involve is managerial practices to ensure that polices are adhered to and an unrelenting will on behalf of the Outreach team, to ensure that these patients get the care outlined. Admittedly, the unquestionable need for the expansion of Outreach services nationwide would demand more strategic foresight and financial commitment on behalf of key stakeholders and financial controllers.

15.2 Financial Implications

The Outreach Programme provides potential for one in five COPD admissions to be redirected to the Outreach team under discharge programmes. This will have an impact on the length of stay for a COPD admission with an estimated reduction in average LOS of 2 days achieved within 2 years of programme set-up.

Additional Benefits

1) Improve levels of adherence to prescribed treatments in COPD, through supervision education, thus improving concordance, reducing elements of waste.

2) Reduce the number of re-exacerbations through appropriate medication and early self-management principles, which should additionally positively impact on primary care utilization. This impact on general practice and primary care utilization.

3) Reduce ED presentations, overcrowding and streamline admissions when required.

4) Increase bed availability for elective admissions thereby improving hospital performance indicators.

5) Reduce the number of patients who are frequently presenting for admission.

6) Care for COPD patients in the community utilizing Outreach service and community services thereby aligning COPD treatment provision to the Sláintecare vision

The programme will also provide a suitable platform to oversee correct LTOT and portable O2 use, which can then be re-assessed following patients convalescence period.

15. 3 Quality Improvements

1) The provision of an Outreach care package should impact greatly on average LOS, rates of exacerbations & re-admission rates.

2) The Outreach team offers a seamless transition from hospital to home using an individualised patient care package, with back up support of multidisciplinary teams in both community and secondary care centers thus improving integration of services.

3) Ongoing audit and research using both objective and subjective measurement tools for analysis, to improve models of care. GP feedback should be sought at every opportunity as part of qualitative feedback.

16.0 Assisted Discharges

This service can be offered to patients who initially did not meet the inclusion criteria for an Early Discharge programme. These patients will have been in patients for over 72 hours, however are now clinically suitable for discharge but with one of the following mitigating factors:

1) First diagnosis/presentation of COPD.

2) New LTOT.

3) New to Portable Oxygen.

4) Need for domiciliary NIV.

5) Previous poor compliance/understanding of treatments.

The Outreach team can offer patients an assisted discharge in these cases, e.g. two visits in two weeks. Aims would be to support and educate the patient and carers on aspects of COPD, medications and new treatments. In this way the team can also identify any potential problems/issues which could result in a re-admission (both avoidable and unavoidable).

Patient contacted within 24 hours of discharge by the Outreach team and they will re-assess the patient within one week of discharge. Contact numbers will be provided should the patient need to contact the Outreach team.

Method of referral: From medical teams, patient must have had a Respiratory Physician review during their current admission if not previously seen by respiratory services.

Sample inclusion/ exclusion criteria for assisted discharge

Inclusion	Exclusion
Diagnosis of COPD MMSE >7 Systolic B/P >100mmHg Room air ABG (or Prescribed O2ABG if being Discharged on LTOT) pH > 7.35 PCO2 < 8kPa PO2 >7.3kPa WCC 4-10 * New LTOT/Portable/NIV	History of Brittle Asthma Suspected Malignancy/TB Pneumothorax/Pneumonia Curb 3/PE Uncontrolled LVF/Acute ECG changes Requires full time care poorly controlled Psychiatric Issues Insufficient home care Requirement for IV Therapies (unless CIT available) IDDM

Figure 1 *Adapted from BTS guidelines for HaH 2007*

Essentially this is a shortened programme of treatment in the home, to facilitate the patient's transition home. Despite this, all objective and subjective assessments should be made at visits. The required number of visits is patient dependent, however ideally the Outreach team should aim to discharge the patient back to the G.P. within 2 – 3 visits.

A detailed discharge summary will be forwarded to the patients G.P. once all visits have been completed demonstrating the patients response to treatment.

17.0 Virtual Early Supported discharge

The NCP Respiratory (2020) has developed a guidance document with regards to the setting up of Virtual Supported discharge if appropriate. These programmes should be incorporated alongside existing programmes (resource pack).

Virtual programmes which compliment conventional programmes are the next stage in the evolution of COPD Outreach programmes in Ireland.

https://www.hse.ie/eng/about/who/cspd/ncps/copd/resources/guidance-for-setting-up-a-virtual-supported-discharge-service-for-covid-19.pdf

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18.0 Appendices

Appendix 1 KPIs for Outreach services 2018 & 2019

COPD Outreach Monthly Statistics	2019	2018
Number of patients reviewed for potential inclusion		
ED	1775	1722
AMAU	420	416
Ward	2036	2185
other	137	101
Ongoing reviews	1808	2172
TOTAL	**6176**	**6596**

Number of patients accepted to outreach programme	2019	2018
Early Supported Discharge (0-72 hrs) & Assisted discharge 2 (under consultant)	643	713
Assisted discharge 1 (under GP)	689	571
Admission Avoidance/Prevent Readmission	324	278
GP Direct Access	57	8
TOTAL	**1713**	**1570**

Treatment	2019	2018
Number of Home visits	3601	3374
Case Management of Outreach patients	3705	2467
Clinic Reviews (all clinics inc oxygen, respiratory OPD etc)	3091	2741
Inpatient Treatments for COPD	507	599
Inpatient Treatments for other conditions	284	702
Number of re-admits for ESD, AD2, Admission Avoidance, Prevent Readmission (0-14 days)	79	78
Education (non patient)	433	578

Pulmonary Rehabilitation	2019	2018
Number of patients assessed for Pulmonary Rehab	517	524
Number of Pulmonary Rehab classes	743	612
Number of patients who attended Pulmonary Rehab class	3018	3248

Appendix 2 Monthly Template for statistics to NCP

"2020 Hospital:													
COPD OUTREACH MONTHLY STATISTICS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Number of patients reviewed for potential inclusion													
ED													
AMAU													
Ward													
other													
Ongoing reviews													
TOTAL													
Number of patients accepted to Outreach programme													
Early Supported Discharge (0-72 hrs) & Assisted discharge 2 (under consultant)													
Assisted discharge 1 (under GP)													
Admission Avoidance/Prevent Readmission													
GP Direct Access													
TOTAL													
Treatment													
Number of Home visits													
Case Management of Outreach patients													
Clinic Reviews (all clinics inc oxygen, respiratory OPD etc)													
Inpatient Treatments for COPD													
Inpatient Treatments for other conditions													
Number of re-admits for ESD, AD2, Admission Avoidance, Prevent Readmission (0-14 days)													
Education (non patient)													
Pulmonary Rehabilitation													
Number of patients assessed for Pulmonary Rehab													
Number of Pulmonary Rehab classes													
Number of patients who attended Pulmonary Rehab class													

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