



COPD Collaborative 2018/19

Final Report

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Foreword

The respiratory programme has been very aware of what the burden of COPD admissions means to patients, their relatives and indeed the healthcare system. COPD admissions continue to be leading medical cause of acute admission to our hospitals. This results in considerable morbidity and unfortunately mortality to patients with COPD and obvious distress to their relatives. There is considerable variability in the care given to these patients in our hospitals which is an indicator of poor quality of care overall. The respiratory programme in succession to the previous COPD clinical programme has been very engaged in trying to manage more effectively. In collaboration with the Royal College of Physicians of Ireland (RCPI) a COPD collaborative has been designing interventions with outcome measures in line with the programme's standards and priorities. The initial programme has been a great success in generating considerable engagement in the hospitals that have been involved in the collaborative. The clinical programme is enthusiastically supportive of a further collaborative and hopes that it will be associated with even more success to reduce the burden of COPD admissions.



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Abbreviations used in this document

AECOPD	Acute Exacerbation of COPD
AMAU	Acute Medical Assessment Unit
COPD	Chronic Obstructive Pulmonary Disease
DECAF	In-hospital mortality score for AECOPD
DTA	Decision to admit
ED	Emergency Department
IHI	Institute for Healthcare Improvement
LOS	Length of stay
MAU	Medical Assessment Unit
OECD	Organisation for Economic Co-operation and Development
QI	Quality Improvement
RCPI	Royal College of Physicians of Ireland

Introduction

The Royal College of Physicians of Ireland (RCPI) Chronic Obstructive Pulmonary Disease (COPD) Improvement Collaborative (the Collaborative) was a nationwide quality improvement (QI) programme in Ireland aimed at enhancing care for patients with this chronic and debilitating condition. This final report details the progress and achievements of the Collaborative.

The Collaborative was launched in September 2018 as a vehicle for service improvement, in line with strategic goals of the National Clinical Programme for COPD (NCP COPD) and funded by Health Service Executive Clinical Innovation and Design (formerly Clinical Strategy and Programmes) (HSECDI). Completing in November 2019, the Collaborative comprised 18 consultant-led respiratory teams from 19 hospitals learning together and using quality improvement (QI) methodology to reduce variation in the treatment of acute exacerbation of COPD (AECOPD) throughout the patient journey, with a focus on standardising care at presentation and in preparation for discharge.

What is COPD?

COPD is characterised by chronic, slowly progressive decline in lung function with only partially reversible airflow obstruction, systemic manifestations and increasing frequency and severity of exacerbations.

COPD has considerable impact both on quality and quantity of life for the patient, involving long term medical care, frequent hospital admissions and often, premature death. Ireland has the highest rate of admission for COPD is the Organisation for Economic Cooperation and Development (OECD), with marked variation in hospital performance contributing to COPD being the 4th leading cause of death nationally¹. The significant scope for improvement in hospital performance and inpatient treatment of COPD was a driving factor in designing and developing this national collaborative.

The burden of COPD in Ireland

500,000	200,000	€70,813,040	7 days	4th	1st
• Estimated number of people in Ireland with COPD ¹	• Estimated number of people in Ireland with moderate or severe COPD ¹	• Cost of inpatient care in Ireland, 2014 ²	• Average length of stay in hospital in Ireland for COPD admission ³	• COPD is the 4th leading cause of death in Ireland, 2016 ¹	• Highest rate of admission for COPD in OECD, 2013 ⁴

National COPD Collaborative 2018/19

Background

Eighteen consultant-led, multidisciplinary, respiratory teams from nineteen hospitals across Ireland participated in the 15-month RCPI-led Irish COPD Collaborative learning programme, following an adapted methodology from the Institute for Healthcare Improvement (IHI) Breakthrough Series Collaborative Model.

Collaborative methodology

The improvement collaborative has a clear structure with an essential planning phase and an implementation period of between 12 to 18 months and finally spread activity. Topics for improvement reflect the priorities of healthcare leaders and the passion of front-line healthcare workers. Collaboratives encourage a 'deep dive' into a given topic area with front-line specialist teams to establish a sense of cohesion and trust and harness the support and commitment to achieve breakthrough results in the chosen topic area.

The Aurum Institute. HOW TO: Guide for quality improvement

COPD Collaborative teams submitted a monthly dataset (anonymous patient data relating to measures within the COPD care pathway) and attended five mandatory, full-day, face-to-face Learning Sessions with faculty support during 'Action Periods' to develop and implement locally appropriate tests of change towards a global goal of improved care for acute COPD presentations. All teams made overall COPD pathway improvements for patients at admission, assessment and discharge through redesign of current or implementation of new processes.

Aim

The aim of the national COPD Improvement Collaborative was to facilitate the participating multi-disciplinary respiratory teams to improve the quality of care for patients presenting to hospital services with AECOPD. This aim was achieved through teaching, supporting and coaching teams to develop QI skills and apply new approaches to service improvement. The collaborative teams sought improvements to suit their clinical setting in the following key areas of care for patients with AECOPD:

1. Access to respiratory specialist review
2. Compliance with admission clinical bundle
3. Use of standardised, evidence-based assessment (DECAF*)
4. Compliance with discharge processes.

***DECAF score**

The DECAF score is a simple predictive tool, using indices routinely available at the time of hospital admission, that can accurately predict in-hospital mortality in patients hospitalised with acute exacerbations of COPD. Application of the DECAF score at admission and discharge will assist clinical decision-making about early supported hospital discharge, escalation of care, or early discussion of palliative care.

Planning & recruitment

Following a successful pilot, reported [elsewhere](#), the national COPD Collaborative was approved for funding in July 2018. A coordinated, joint recruitment strategy by RCPI, HSECDI and NCPDOPD facilitated communication with key stakeholders in the health service and generated significant interest in the programme.

Eligibility criteria

Teams were required to meet eligibility criteria for participation. Several interested sites were unable to fulfil all requirements or commitments within the timeframe.

COPD Collaborative eligibility criteria**Participating hospitals**

- | | |
|-----------------------------------|-------------------------------|
| • Beaumont Hospital | • Nenagh Hospital |
| • Cavan Monaghan Hospital | • OLOL, Drogheda & Dundalk |
| • Connolly Hospital | • Portiuncula Hospital |
| • Ennis Hospital | • Sligo General Hospital |
| • Letterkenny University Hospital | • St Michael's, Dun Laoghaire |
| • Mayo General Hospital | • St James' Hospital* |
| • MRH Mullingar | • St Luke's General, Kilkenny |
| • MRH Portlaoise | • South Tipperary General |
| • MRH Tullamore | • Tallaght Hospital |

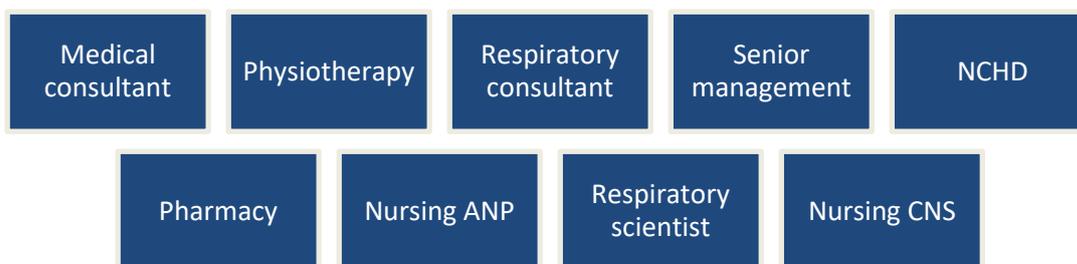
-
- Naas General Hospital
 - University Hospital Limerick
-

* withdrew due to unforeseen circumstances

Team membership

Participating teams were consultant-led, had named sponsorship at senior organisational level and had between two and four additional members from respiratory and associated disciplines, usually frontline COPD care providers (Consultants in Respiratory and Acute Medicine, Respiratory Nurses, Physiotherapists and Non-Consultant Hospital Doctors). Some teams have also included staff in senior administration roles, respiratory scientists and ward or Emergency Department (ED)/ Acute Medical Assessment Unit (AMAU) staff, as locally applicable.

Diverse team membership



Diverse areas of influence



Programme structure

Teams attended five mandatory, full-day, face-to-face Learning Sessions with faculty support during 'Action Periods' to develop and implement locally appropriate tests of change towards a global aim of improved care for patients presenting with AECOPD.

Collaborative governance

The Collaborative was designed and led by a dedicated RCPI QI faculty team including a Programme Manager and QI, subject matter and coaching specialists from medicine, nursing, education and patient support. The work of the Collaborative was supported by a COPD Collaborative Working Group that reported to a joint

Advisory Group within HSECDI. Programme content and support was created in collaboration with NCPDOPD and the national peer-support network, COPD Support Ireland.

Collaborative outcomes and evaluation

The mid-way COPD Collaborative [Interim Report](#) indicated improvement trends in areas of care including LOS and time to respiratory specialist review in addition to increased compliance with bundle interventions. These improvements appear to have been sustained in the latter half of the Collaborative and are summarised below. In addition, surveys were completed at the final Learning Session in September (73 % response rate) and analysis of responses is underway. Full quantitative and qualitative evaluations will be submitted for publication to peer-reviewed journals.

Monthly Key Performance Indicator (KPI) data

Teams submitted a monthly overall dataset based on twenty evaluation criteria that were agreed with the NCPDOPD and a respiratory and QI expert group.

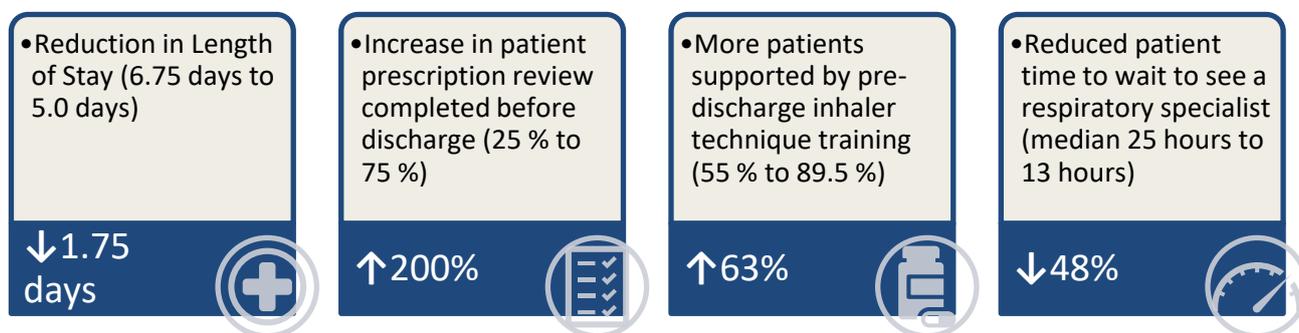
Teams evaluated their own systems and processes to determine their own priorities for improvement within their resources and ability to influence. Teams did not have the capacity within the Collaborative timeframe to impact all criteria on this dataset, but all have learned QI skills and methods that may now be applied in their setting towards improvements in the new areas.

Monthly dataset criteria

Aspect of Care	Criteria
Patient experience time	Time from registration to triage
	Time from first registration to first medical review
	Time from first registration to first respiratory specialist review
	Time from first registration to Decision To Admit
	Length of stay

Admission/presentation clinical interventions	<ul style="list-style-type: none"> Documented evidence of DECAF standardised assessment Documented evidence of COPD diagnosis (spirometry) Documented evidence of chest x-ray Documented evidence of blood gas analysis Evidence of oxygen saturations maintained Evidence of bronchodilator administration Steroids commenced (if yes note route of administration) Antibiotics commenced (if yes, note route of administration)
Discharge process interventions	<ul style="list-style-type: none"> Documented evidence of discharge bundle completion Evidence of inhaler technique reviewed prior to discharge Evidence of prescriptions / medications reviewed with patient Patient provided with written self-management plan and action plan Appropriate outpatient follow up arrangement made Evidence of follow up phone call to patient within 72 hours Evidence of follow up phone call to patient within 7 days

Sample key performance indicator improvements (median values)



These figures demonstrate improvement in AECOPD care and better patient experience. The improvements to patient care will have knock-on impacts to the wider health system, including reduced ED attendances, appropriately avoided admissions and reduced lengths of stay (LOS). Significant cost reduction is possible, given the reduced LOS for patients admitted with AECOPD.

Introduction of the validated DECAF score to standardise assessment of severity of exacerbation on presentation to hospital has been shown to facilitate clinical decision making and may contribute to a reduction in unnecessary admissions to hospital, also leading to cost efficiencies. See Figure 1 overleaf.

There was significant variation across sites regarding availability of spirometry results to indicate confirmed COPD diagnosis due to several factors related to incomplete testing, inadequate documentation and

inaccessibly of results in a timely manner. Consequently, some teams selected to focus on improving processes around recording of spirometry results. See figure 2 below.

Figure 1 Documented use of DECAF assessment

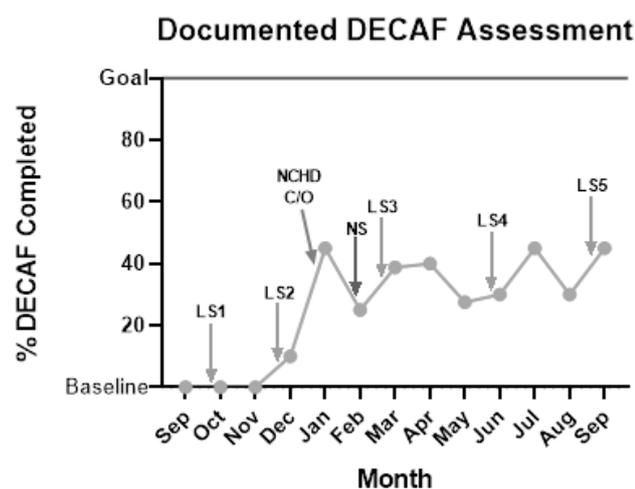
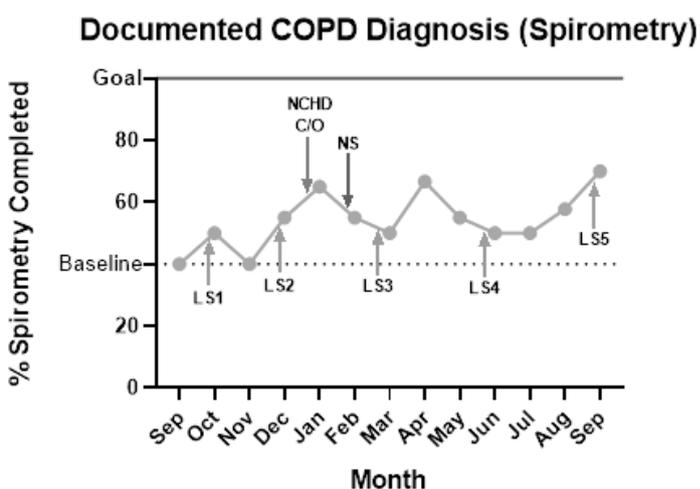


Figure 2 Documented COPD diagnosis



Potential Cost Savings

Cost savings are indicated from the interim data as a result of the COPD Collaborative improvement projects.

The cost of COPD care in Ireland in 2014 was upwards of €70 million, based on an estimates process on cost per day of inpatient care. Despite the small scale of the COPD pilot, cost saving opportunities were noted in both sites through admission avoidance and reduced length of stay associated with the early intervention of the respiratory specialist care team.

Many projects underway have cost saving implications through admission avoidance and reduced LOS. By July 2019, the COPD Collaborative monthly dataset aggregation was demonstrating evidence of a national decrease in LOS by 1.5-days overall, based on almost 2,000 patient episodes.

Reduced Length of Stay in COPD Collaborative sites

Using the median LOS values from each hospital ($n \leq 10$ patients in each hospital each month), the mean \pm SD LOS at the start of the Collaborative (September 2018) is 7.1 ± 3 days. This has reduced to 5.6 ± 2.3 days (mean \pm SD) in September 2019.

Case examples

Individual hospital reports indicate local level improvements gained over the course of the Collaborative. Some teams and projects focused on ward-level improvements, some on changing outcomes in ED or MAU/AMAU, others had COPD Outreach team members and these teams may have experienced a greater shift in improvements towards discharge and follow up for example. See Appendix 1 for all team abstracts.

Extracts from COPD Collaborative abstract submissions

St Luke's Hospital, Kilkenny

1. **0%-50% improvement in the percentage of patients with AECOPD who had a DECAF score documented on admission**
2. 92% (n=13) of nurses on Ward 7 received standardised inhaler technique education
3. Physiotherapists, pulmonary rehabilitation & respiratory medical & nurse-led outpatient clinics have led the distribution of self-management plans to patients with COPD. This was further supported by the Respiratory Integrated Care CNS educating patients on the plan in GP practices

Ennis Hospital

The components of the Admission Care Bundle were developed following a review of current best practice guidelines including BTS. **100% of patients presenting with AECOPD to Ennis MAU are assessed using the pathway** & outcomes have improved as a result. Spirometry results are now available on a shared database. **The DECAF tool has assisted clinical decision making, allowing clinicians to contemplate safe discharge.**

Naas General Hospital

By introducing early respiratory review there was a **reduction in LOS from 8 days to 5 days. Time from patient registration to review by respiratory specialist improved by 2 days.** Furthermore, introduction of COPD management bundle ensured that every patient attending with AECOPD received standardised care.

Beaumont Hospital

The COPD collaborative has provided an opportunity to review our current practice and make changes within the resources available. IV medications for COPD exacerbation are associated with elevated levels of cost, nursing time, and plastic waste. Programs that interchange this switch helps overcome these barriers and improve patient care by **allocating nursing time back to patients' bedside.**

Person-centredness

The patient voice has been a fundamental driver for change and core component of the Collaborative. In partnership with Board Members of COPD Support Ireland, patients and carers were actively involved with the COPD Collaborative Working Group and participated fully as co-faculty at the Collaborative Learning Sessions presenting patient experience stories and engaging with teams during interactive sessions. Collaborative teams were encouraged and empowered to partner with patient(s) and carer(s) in their improvement efforts.

Teams achieved varying levels of partnership with patients. Challenges to building engagement included recruitment of appropriate patients (for a variety of reasons including clinical condition), ability to support patient time in these roles and facilitate the co-production of care process improvement between patients and providers. Teams that achieved higher degrees of engagement with patients reported frank, open discussions, improved understanding and communication in the patient/healthcare team relationship, and enhanced opportunities for improving the patient journey.

Patients and carers have offered their own evaluation of participation in this body of work;

“...Our journey with this illness is very hard but now at least when we present at A&E we will be taken on this pathway through the department and not the maze it has been! We will be seen by the appropriate team and dealt with quickly. This will make such a huge difference to us...”

Ann Murphy, Patient and Board Member COPD Support Ireland

Evaluation & dissemination

The final phase of the national COPD Collaborative involves securing improvements into the future and spreading to other services or areas both locally and nationally, dissemination of findings (publication of a scoping literature review and formal evaluation).

The Irish COPD Collaborative has been presented at numerous national and international forums to date. A full list is presented in Appendix 2 of this document.

Dissemination

Regular communications are disseminated from the COPD Collaborative including active social media outputs via @RCPI_QI on Twitter and an electronic newsletter to a wide stakeholder group.

Learning and recommendations

This QI Collaborative was the first initiative of its kind in Ireland to focus on improvements in care for a chronic condition. All teams showed improvements in their own focus areas and this was reflected in the national data trends, though sustainability has been highlighted as a potential challenge by some sites. RCPI has proposed a follow-on Collaborative (the Spread Initiative) to broaden the reach of the improvement outcomes by offering the opportunity to embed best-practice standards for AECOPD in new teams and hospitals and provide a means to provide continued support for sustained improvement with the initial teams.

The co-design process of this first Collaborative encouraged participating teams to analyse their own systems and processes and develop locally applicable change ideas. While this remains the proposed approach for the Spread Initiative, team progress may be expedited through the experience and evidence from the first collaborative including development of a mentoring system to match initial teams with the new recruits.

In addition, feedback and learning from this first COPD Collaborative has identified areas for efficiencies in future programmes including:

- Reduce the burden of data collection with fewer measures and simplified submission processes
- Enhance before and after evaluation opportunities by administering a survey at the first learning session, as well as at the last session, to include morale and job satisfaction assessment questions as well as expectations questions
- Provide geographically convenient group-coaching session schedule from the outset of the programme to facilitate attendance
- Employ new RCPI web-based services applications to enhance teams' access to QI learning tools.

An additional recommendation is to establish collaborative partnerships and scope opportunities for development of co-designed, person-centred innovations towards the strategic health service priority of a shift of care to the community and to provide hospital avoidance measures for patients with COPD in Ireland. This element is envisaged as a facilitator to designing a future integrated/community care QI initiative, applicable to COPD care and other chronic disease programmes in Ireland which may be piloted in early 2020.

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Appendix 1 COPD Collaborative outputs

Conference – poster and abstract	A National Collaborative Programme to Improve Clinical Care Outcomes for Patients with Chronic Obstructive Pulmonary Disease (COPD) in Ireland	IHI Forum Glasgow 2019
Conference – poster and abstract	Report from the Initial Phase of a National Improvement Collaborative for Patients Suffering with Chronic Obstructive Pulmonary Disease (COPD) in Ireland	IHI Forum Glasgow 2019
Conference – poster and abstract	COPD Collaborative Pilot won the Robert Collins Award (for demonstrating an outstanding contribution to quality and reliable care in a healthcare setting)	RCPI/ISQua QI Summit
Conference - oral presentation	Turning the tide on COPD – the Irish national COPD Improvement Collaborative	ISQua Cape Town Conference 2019
Conference – poster, abstract and short presentation	Using patient experience to drive improvement in the Irish National Chronic Obstructive Pulmonary Disease (COPD) Collaborative	National Patient Safety Office Conference 2019
Conference – poster and short presentation	Improving Patient Care: The Irish National COPD Collaborative: A Quality Improvement Initiative	National Patient Safety Office Conference 2019
Conference – poster and abstract	Using patient experience to drive improvement in the Irish National Chronic Obstructive Pulmonary Disease (COPD) Collaborative	National Quality, Clinical Risk & Patient Safety Conference
Conference – poster and abstract	Patients, Professionals and Providers; partnering to achieve service-level improvement in acute COPD care	IHI Forum, Copenhagen 2020
Conference - abstract submitted	The Irish National COPD Collaborative – A QI Initiative Aimed at Improving AECOPD Patient Care at Presentation, Admission and Discharge, Using Care Bundles	IHI Forum, Copenhagen 2020
Conference – poster and abstract	Using patient experience to drive improvement in the Irish National Chronic Obstructive Pulmonary Disease (COPD) Collaborative	Irish Thoracic Society 2019

Conference – poster and short presentation	Evaluation of the Irish National COPD Collaborative Quality Improvement Initiative	Irish Thoracic Society 2019
Letter to the Editor	National COPD Collaborative in Progress in Ireland (Response to Morton et al 2019 paper)	BMJ Open Respiratory Research
Published article	Interventions at presentation and discharge for patients with Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD) to reduce unnecessary admissions and readmissions. A scoping review protocol	Nursing Open, Wiley & Sons
In draft for publication	Interventions at presentation and discharge for patients with Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD) to reduce unnecessary admissions and readmissions. A scoping review.	Respiratory journal TBC
In draft for publication	Evaluation of COPD Collaborative: QI teaching and Learning	ISQua Journal
In draft for publication	Evaluation of COPD Collaborative: Improving Patient Care	Respiratory journal TBC

Appendix 2 COPD Collaborative team abstract submissions

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Mayo University Hospital	Early respiratory intervention for patients admitted to Mayo University Hospital with acute exacerbation of COPD improves quality and consistency of care delivered	30
Midland Regional Hospital Mullingar	Improving availability of Pulmonary Function Tests results for COPD patients in Mullingar	31
Midland Regional Hospital Portlaoise	Improving the journey for the person entering the service of Midland Regional Hospital Portlaoise with Acute Exacerbation of Chronic Obstructive Pulmonary Disease	33
Midland Regional Hospital Tullamore	Introduction of a Community Pulmonary Rehabilitation Programme, patient centred, timely and equitable aimed at reducing both exacerbations of Chronic Obstructive Pulmonary disease and hospital admissions to MRH Tullamore	35
Naas General Hospital	Chronic Obstructive Pulmonary Disease Improvement Collaborative project, Naas Hospital Perspective	37
Nenagh Hospital, Co Tipperary	Introduction of a Discharge Care Bundle for patients admitted to hospital with an Acute Exacerbation of Chronic Obstructive Pulmonary Disease to Nenagh Hospital	39
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University Hospital Limerick	The implementation of a COPD management intervention bundle with a DECAF assessment to improve appropriate assessment and management of acute exacerbation of COPD	54

COPD Collaborative in Beaumont Hospital; A Quality Improvement Campaign to for COPD patients

Professor Richard Costello, Aoife Carolan, Catherine McGeoghegan, Deirdre O' Flaherty, Grace McKee, Maura Rowland.

Respiratory Centre Beaumont Hospital

Introduction

Exceptional health care is facilitated by a collaborative approach that involves multidisciplinary professionals (6). Beaumont Hospital used a collaborative approach to map out the journey that patients with COPD have from ED through to discharge. Our process map highlighted areas of improvement, described below:

100% of patients admitted with an AECOPD were commenced on IV steroids.

- SMART aim: reduce the use of unnecessary IV steroids in patients presenting to ED with an AECOPD from 100% to 0% by September 2019.

20% of patients admitted with an AECOPD had documented evidence of having their inhaler technique reviewed during their stay.

- SMART aim: increase the documented evidence of inhaler technique in our COPD patients from 20% to 100% by September 2019.

Background

Acute COPD exacerbations remain among the most common presentations to ED worldwide (1). Despite conflicting evidence regarding the role for IV steroids for treatment of these exacerbations (2,3) they continue to be considered by many as standard and initial treatment of care on presentation to ED and throughout the patient's hospital stay (3,4). Conversion from IV to PO steroids can decrease the length of hospitalisation without adversely affecting patient outcome and may also improve patient care by reducing the risk of IVC infection (8), decreased nursing needs (7,8). The time allocated to preparation and administration of IV therapies could be directly translated to time spent with patients.

Methods: IV to PO

PDSA cycle 1. Education and Awareness Sessions of IV to PO

PDSA cycle 2. Launch Poster Competition 'PO is the way to go'

PDSA cycle 3. Assessment of IV to PO conversions through retrospective chart audit

PDSA cycle 4. Working group with ED department supporting development of a COPD Pathway (pilot launched Aug 2019)

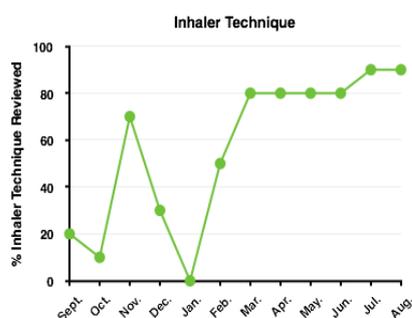
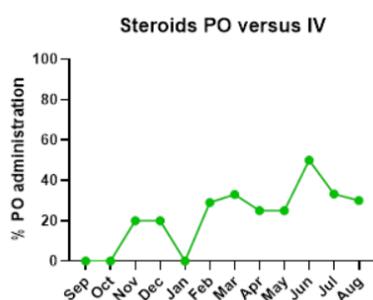
Methods: Inhaler technique

PDSA cycle 1: Staff Education and Training Sessions on Inhaler Technique

PDSA cycle 2. Respiratory CNS In-Reach Support for patients on Non-Respiratory Wards

PDSA cycle 3. Development of Individualised Inhaler Regimens for patients (visual)

Results



Conclusion

The COPD collaborative has provided an opportunity to review our current practice and make changes within the resources available. IV medications for COPD exacerbation are associated with elevated levels of cost, nursing time, and plastic waste (6,7,8). Programs that interchange this switch helps overcome these barriers and improve patient care by allocating nursing time back to patients' bedside (7,8).

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Acute Care Bundle for AECOPD: To ensure high quality care for all patients admitted with an acute exacerbation of COPD to Cavan General Hospital

Marie Togher, Clare Lynch, Dr Paulo Pinheiro, Prof James Hayes, Dr Aoife O'Reilly, Bernie Walsh.

Cavan General Hospital

Introduction

The aim of the quality improvement initiative was to design and implement an acute admission bundle to standardise the management of patients presenting with an acute exacerbation of COPD (AECOPD).

Background

A significant number of patients with AECOPD are admitted under the care of nine medical physicians, with only one having a respiratory speciality. The introduction of an acute care bundle could help deliver a systematic, consistent and evidence-based approach to care for this cohort of patients (Turner et al, 2015).

Methods

At the outset, a driver diagram was completed to help systematically plan and structure the project. COPD guidelines and existing bundles were reviewed. A draft bundle was developed incorporating the following key elements - diagnosis confirmation, oxygenation needs, recognition and response to acidosis, and medication.

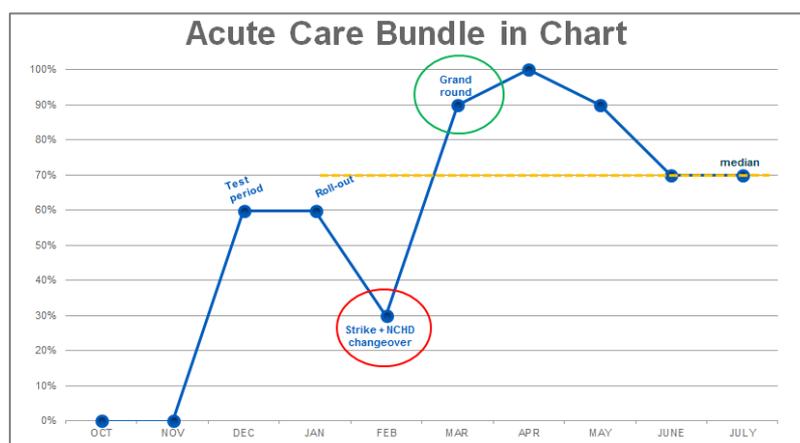
The bundle was tested and adapted using PDSA cycles to create the final version. Key changes made during this process included addition of DECAF tool to assess exacerbation severity, connection of elements of DECAF tool to treatment options and prompts to consider sepsis pathway and other co-morbidities.

Bundle education sessions were delivered. COPD Outreach staff offered additional support in the ED and MAU by increasing their presence and assisting with bundle completion. A quick dial facility available on all phones provided quicker access to outreach team.

Monthly data was collected to record the impact of the bundle introduction and interventions.

Results

The initial focus of the project was on bundle development, with the final version rolled out in January 2019. The following graph illustrates bundle use in the monthly audit of 10 charts from October 2018 to July 2019.



Bundle usage varied over the project period, with a median performance of 70%. The significant drop in February reflects the nurses' strike and NCHD changeover. The pattern after February demonstrated an upward trend, influenced by further education sessions and respiratory support.

Conclusion

An acute admission bundle was successfully developed and implemented over the project timeframe. Additional work is required to ensure the bundle is routinely used for all AECOPD patients, independent of respiratory staff input. Inclusion of the bundle in the ED and medical proforma documentation will assist this. The next step of the project will focus on individual elements of the bundle, such as early PO switch, prompt initiation of NIV and use of DECAF to decide treatment choice.

Reference

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Promoting effective, patient centred care for adults presenting with an acute exacerbation of COPD at Connolly Hospital

Deirdre Curley, Respiratory Clinical Nurse Specialist. Helen Johnston, Senior Physiotherapist, Professor Liam Cormican, Respiratory and Sleep Consultant, Elaine Craven, Respiratory Advanced Nurse Practitioner, Michele Cuddihy, Respiratory Clinical Nurse Specialist.

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Introduction

Hospitalisation due to acute exacerbations of COPD (AECOPD) is common¹ with 529 admissions with a primary diagnosis of COPD to Connolly Hospital in 2018.

Connolly Hospital signed up to the National COPD Collaborative in September 2018 and focused our Q.I. efforts on three projects addressing the following parts of the patient's journey;

1. Presentation assessment: No disease specific assessment tool used at presentation.
2. In-patient treatment: Variability in prescription of steroid therapy for AECOPD.
3. Discharge education: No information resource or 'COPD Action Plan' provided on discharge.

Background

1. PROGNOSTICATION DECAFFINATION

The DECAF score is a validated tool for accurate prediction of mortality and risk stratification to inform patient care for AECOPD.¹

Aim: To increase the use of the DECAF score in patients presenting with AECOPD from 0%-100% by September 2019.

2. STEROID STANDARDISATION

Oral corticosteroids are as effective as intravenous for the treatment of appropriate adults with AECOPD.²

Aim: To increase the prescription of oral corticosteroids in appropriate AECOPD patients from 12.5% to 100% by September 2019.

3. INFORMATION RESOURCE AND ACTION PLAN

Adherence to a written action plan is associated with a reduction in exacerbation recovery time by initiating prompt treatment.³

Aim: To develop a disease specific information resource and increase provision from 0%-100% of patients discharging post AECOPD by September 2019.

Methods

- Fortnightly team meetings, completion of systems analysis, generation of change ideas & subsequent PDSA cycles.
- Education sessions hospital wide.
- Communication with colleagues and stakeholders via email and text.
- Modification of the Medical Admission pro forma.
- Following patient consultation, the development and distribution of poster and resources.

Results

1. Documented DECAF score in patients presenting with AECOPD increased from 0%-90% by September 2019, aiding decisions about patient's care.
2. The prescription of oral corticosteroids in appropriate AECOPD patients has increased from 12.5% to 70% by September 2019. This translates to a cost saving of €7.82 and time saving of 31 minutes of registered nursing per patient per day.⁵
3. The information Resource Action Plan provision has increased from 0%-100% of COPD Outreach and ANP patients discharging post AECOPD by September 2019.

Conclusion

We are on our way to achieving our goals of improving the AECOPD patient's journey. Future team plans:

- Linking appropriate low DECAF score patients with referral to COPD Outreach for admission avoidance and early supported discharge.
- Extending out the provision of the Information Resource and Action plan to the acute wards.
- Sustaining our efforts, to ultimately make the projects intended outcomes independent.

References:

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5. CHB Pharmacy provided costing, calculated 05/09/19.

Implementation of an Intervention Bundle and DECAF assessment tool to provide appropriate assessment and management of patients presenting with AECOPD to Ennis MAU

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University of Limerick Hospitals Ennis Hospital

Introduction

A review of the current management of AECOPD patients presenting to Ennis MAU showed a non-uniform approach. Our aim was to develop an evidence-based admission care bundle that would standardise assessment, aid clinical decision making and ensure optimum care for all patients. The goal was to complete the pathway in 100% of patients within six months of implementing the care bundle.

Background

COPD exacerbations are defined as an acute worsening of respiratory symptoms requiring additional therapies. The goal for this project was to improve the overall care for patients presenting with AECOPD and allow a more streamlined evidence-based approach in their management. Evidence based care has been shown to improve quality of life, reduce length of hospital stay and assist with admission avoidance.

Approximately 20% of in-patient hospital bed days are due to COPD annually (ESRI). One of our goals was to have an effective assessment tool to aid clinical decision making in the need to admit versus safe discharge to the community. We therefore looked at the DECAF assessment tool, a simple and effective predictor of mortality in patients hospitalised with AECOPD and which also proved beneficial to clinicians to more accurately predict patient outcomes and levels of care (Steer *et al.* 2012).

Methods

A stakeholder group was established. The components of the Admission Care Bundle were developed following a review of current best practice guidelines including BTS. The bundle was reviewed and revised regularly using PDSA's, regular visits to the MAU for education of all team members and for feedback.

Results

100% of patients presenting with AECOPD to Ennis MAU are assessed using the pathway & outcomes have improved as a result. Spirometry results are now available on a shared database. MAU staff have improved knowledge on the timely management of AECOPD patients. The DECAF tool has assisted clinical decision making, allowing clinicians to contemplate safe discharge versus need for admission.

Conclusion

The AECOPD Intervention Bundle has ensured appropriate management of all patients presenting with suspected or known COPD. It is not used in isolation but has helped guide the MAU team in reaching the decision to admit versus supported early discharge based on a low DECAF score. Early introduction of COPD outreach would significantly benefit patients with a low DECAF score in the community. The development of a Nurse Led Lung Clinic would ensure early follow-up of higher risk patients. There is a definite need to now develop a discharge bundle to further improve patient management.

Utilisation of Scoring Tool to help in identifying those at risk of in hospital mortality and 90-day readmission in Letterkenny University Hospital

B.Callaghan C.N.S, Dr E. Mc Crave, T. Breen Physiotherapist, A.Viaragar CNM, Dr O. Milkulich Consultant Respiratory Physician.

Letterkenny University Hospital

Introduction

Frequently patients were readmitted to Emergency department and subject to repeat questioning. Furthermore, there was difficulty in continuity of care and identifying those at risk of inpatient mortality.

Background

Our project sought to utilise the previously discussed and validated DECAF and PEARL scores. These were introduced as a result of the COPD collaborative here in Dublin.

These scores illustrated the areas in which we fell down the most in terms of our pre project learning assessment. This was noted especially when compared to our peers involved in the research project. Similarly, we found the palliative care route was frequently neglected.

Methods

Firstly, we educated ourselves about the DECAF and PEARL scores. We educated and addressed buy in from Medical and Nursing colleagues. We utilised departmental meetings and Medical Grand rounds to spread our message and promote the scoring systems. We drew up an admission bundle to be completed for all COPD patients with a similar model on discharge.

Results

There is now total completion of DECAF and PEARL scores on every COPD inpatient admission in Letterkenny University Hospital. This aids in targeted inpatient and outpatient care during their admission. Earlier intervention by Palliative care teams and continuity of care is improved in recurrent stays and outpatient nursing led care minimises readmissions. This in turn empowers patients with COPD and lends to a patient centred approach.

Conclusion

- Minimal input with maximal output in terms of patient centred care
- Helped us address and target more intensive OPD follow-up
- Helped identify those most at risk of inpatient mortality and make prudent decisions regarding care
- Thoroughly rewarding experience with potential for ongoing improvement

Early respiratory intervention for patients admitted to Mayo University Hospital (MUH) with acute exacerbation of COPD (AECOPD) improves quality and consistency of care delivered

Erica Bajar, MISCP; Deirdre Garvin, RGN; Maria Leitermann, RGN; Dr. Elsheikh Shadad, MD; Dr. Cyril Rooney, MD.

Respiratory Department, Mayo University Hospital

Introduction

This quality improvement initiative focused on i) improving early access to assessment for patients admitted to MUH with AECOPD by both a respiratory nurse and a respiratory physiotherapist; ii) Standardisation of treatment. The aim of this initiative is to assess all AECOPD patients within 24hrs of admission between Sunday to Thursday and have an intervention bundle completed prior to discharge.

Method

Exploratory multidisciplinary team meetings were held with representatives from the Emergency, Acute Medicine, Bed Management, and Medical wards. The respiratory nurse and respiratory physiotherapist proactively attended ED and AMAU daily to identify all AECOPD patients, ensuring early assessment. The patients received a standardised intervention bundle that included key quality standards based on BTS (2016), NICE (2016) and GOLD (2019) recommendations.

Key elements of the intervention bundle included:

1. appropriate medication management which encompassed education, inhaler technique and prescription
2. oxygen management and re-assessment
3. breathing exercise and early mobilisation
4. smoking cessation support
5. referral for pulmonary rehabilitation
6. referral for pulmonary function test
7. arrangement of the follow up phone call and follow up plan
8. providing a written self-management plan

Results

The primary outcome was a reduction in time to under 24hrs for first respiratory assessment. This was achieved in 8 of 11 months (73%) (Figure 1). Reduced staffing and weekend admission were identified as the main reason for failing to achieve every month.

Improving availability of Pulmonary Function Tests (PFTs) results for COPD patients in Mullingar

Dr Senan Glynn, Louise Lordan Senior Physiotherapist, Caroline Doyle CNS, Ann Tooher CNS, Rosie Hassett CNS.

Midland Regional Hospital Mullingar

Introduction

We found that PFTs results for COPD patients were not consistently available in the patient's health care records. Our SMART aim was to improve availability of results to 100%.

Background

Even when PFTs were performed results were not always available in the healthcare records. 20% of patients had PFT results accessible via National Integrated Medical Imaging System (NIMIS) or in the HCR at first assessment. This was partly due to archiving of the older PFT results. As a result, it was not always possible to confirm a COPD diagnosis at first contact. We felt this was something that could be improved with relatively simple interventions.

Method

We consulted with our Respiratory Physiologists, ED Staff, Respiratory Nurses and Physiotherapists and medical and secretarial staff. A sample charts for 10 patients admitted with COPD were reviewed at the beginning of this project and monthly thereafter. We reviewed the existing process of how PFT results were documented in the HCR. We liaised with Respiratory consultants to discover their experience of the current process. As PFT results are available via NIMIS we also liaised with the IT department.

To improve the documentation and availability of the PFT results we took the following steps:

1. Explained the importance of documenting PFTs in notes and clinic letters to our NCHD group.
2. Requested a paper copy of PFTs to be printed for the HCR of all new orders.
3. Explored the possibility of changing the format of the PFT results so it would not end up as an archived file and unavailable to view quickly.
4. Received an undertaking from the Respiratory Consultants to enter a results summary directly into the reporting section on NIMIS.
5. Added the PFT result to a prominent place in the Outreach team and Respiratory CNS data record.

Results

Documentation of PFT results increased from 20% of our first sample to 80%, but then decreased to 60% on the last month reviewed. The most consistent improvement came from the altered format of the PFT reports and the nursing documentation. We noted a decrease in the NCHD documented PFT results. We have not

succeeded in ensuring paper copies of results reach each set of notes or managed to change the PFT reporting system to ensure old results do not get archived.

Improving the journey for the person entering the service of Midland Regional Hospital Portlaoise (MRHP) with Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD)

Dr John Connaughton, General Physician, Ms Olivia Lafferty, Assistant Director of Nursing, Ms Anne Marie O'Shea, Clinical Nurse Specialist, Respiratory, Ms Veronica Taylor, Senior Physiotherapist, Mr Michael Farrell, Assistant Director of Nursing, Mr Ciaran O'Flaherty, Anti-microbial Pharmacist.

Midland Regional Hospital Portlaoise

Introduction

Chronic obstructive pulmonary disease (COPD) is a lung condition characterised by airflow obstruction. The disease is associated with increasing dyspnoea and in more severe cases with exacerbations which may require intervention in primary care or depending on severity either attendance or admission to hospital (GOLD, 2019).

In 2016, hospitalisation rates for COPD in Ireland were among the highest in the OECD (Health Service Executive, 2016). COPD impacts on the quality of life of these patients and places a significant impact on current health service demand.

The National Clinical Programme for Chronic Obstructive Pulmonary Disease (NCP COPD) (2015) has developed the introduction and implementation of evidence based integrated COPD management to optimise patient outcomes, in a timely, cost effective and person focused approach.

The Global aim for our collaborative initiatives was to improve the journey for the person entering the service of MRHP with AECOPD.

Objectives

Utilising Process Mapping and results from 10 audited charts locally at MRHP comparing to National results, clear areas for improvement using Specific Measurable Achievable Realistic Timely aims were identified. 3/6 main change initiatives will be discussed for the purpose of this abstract. To include:

1. Provision of priority parking spaces for patients with COPD attending either the Out-Patient Nurse Led Clinic or The Emergency Department.
2. A standard assessment score "DECAF" for COPD.
3. Guideline concordant antibiotic use for AECOPD presentations to MRHP.

Methods

The methods used in the quality improvement initiatives supported by the COPD collaborative were Staff and Patient Engagement in patient stories; the use of Process Mapping to focus on the patients journey; Data Extraction from patient charts, Patient Conversations on admission and post discharge. Questionnaires, SMART aiming, PDSA cycles, Driver diagrams were utilised with each initiative. Also, collaboration with other collaborative hospital sites in information sharing proved invaluable.

Data Synthesis and Results

Data was extracted using a workbook developed by RCPI for this collaborative monthly 10 Chart Audit. Data from returned Patient Questionnaires. Monthly antimicrobial Audit data were used from Pharmacy Department Audits. The feedback data from quarterly national collaborative meetings was also used to determine improvements. HIPE statistics provided information for comparative purposes.

Hospital length of stay remains below the national average at 5 days (year to date) (NQAIS DATA 2019). COPD presentations show some increase in the available data comparing 2018 with 2019 to date, however this might be influenced by greater availability of spirometry to confirm COPD diagnosis, from 10% to a peak of 50% median as noted from the monthly 10 chart data extractions. Some evidence to suggest that individual patient returns within 7 and 30 days has improved whilst overall percentages have not. For the individual patients this is of huge significance and further study in this area may be of interest. The median time of presentation to respiratory specialist review has decreased from nearly 3000 minutes to 1000 minutes. The presence of a Physiotherapist in the ED and staff engagement and education sessions are likely to have contributed to this improvement. Buy in from Physiotherapy colleagues on inhaler support and education. Consistently high levels of documented evidence of diagnostic tests and treatments were identified in the monthly data extractions. Antibiotic compliance up to 80% on last audit data.

Conclusion

On-going support of the MRHP collaborative team members beyond this initiative to further develop the improvements made is recognised as key to the future improvements which we hope to make.

After all, **“It isn’t where you come from; it’s where you’re going that counts”** Ella Fitzgerald.

Introduction of a Community Pulmonary Rehabilitation Programme, patient centred, timely and equitable aimed at reducing both exacerbations of Chronic Obstructive Pulmonary disease (COPD) and hospital admissions to MRH Tullamore

Ms. Triona Cusack, Physiotherapist, Ms. Avril Gannon, Respiratory CNS.

Midland Regional Hospital Tullamore

Introduction and background

Arising from data collected, a cohort of patients within a specific geographic location were noted to experience frequent exacerbations of COPD, resultant hospital admissions and overall poor self-management of their condition. Low or non-attendance to Midlands Regional Hospital Tullamore (MRHT) pulmonary rehabilitation programme (PRP) with transport identified as a causative factor. The team sought to explore the concept, should PR be provided in a community setting could the findings be improved. A SMART aim was developed.

Specific: Reduce exacerbations and hospital admissions in patients with COPD by 20% within twelve months by providing a Community PRP.

Measurable: collate the previous year's data. Audit participants baseline and at three, six and twelve months follow up, reviewing spirometry, six-minute walk test (6MWT), Hospital Anxiety and Depression Score (HADS), COPD Assessment Test (CAT) and the BORG scale of perceived exertion.

Attainable: Education provided by Respiratory CNS and physiotherapist MRHT. Programme delivered by community physiotherapist.

Relevant: provided to patients with COPD who could not otherwise avail of the PRP.

Timely: Two hours, twice a week for eight weeks in two locations, facilitating 14 patients.

Methods

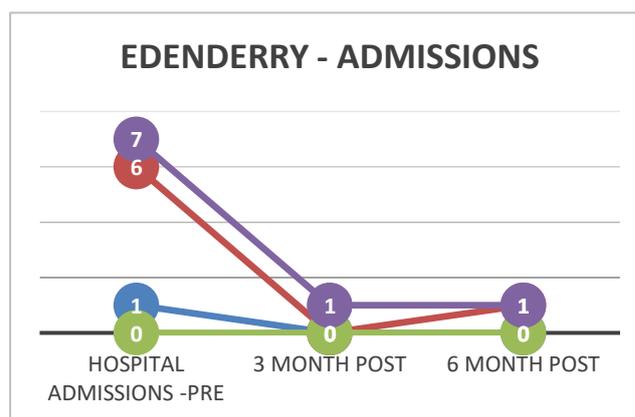
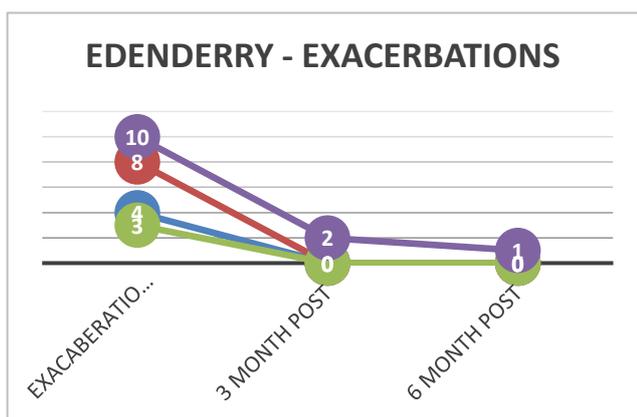
Oct 18 – Sept 19: Project and location agreed, involvement and co-operation of community physiotherapist, pre-assessment of 8 patients, started in Edenderry for 8 weeks, post assessment with 3 & 6 month follow up. PDSA cycle- time change to avoid DNA's. SGRQ omitted due to time constraints.

July 19: Birr PRP commenced.

Results

- Reduction in COPD exacerbations, hospital admissions.
- Improved CAT, HADS, 6WT
- Positive patient experience

- Reduced PR waiting list
- 2 DNA'S Edenderry, 1 hospitalisation and 1 started new company, awaiting final follow up
- Full attendance Birr, zero admissions/exacerbations during/since programme, awaiting follow up
- Evidence indicates providing community PR twice a year in both locations the needs of the current demographic will be met



Conclusion

PR is the gold standard for patients living with COPD. Providing education to patients on self-management of their condition and improving their exercise tolerance has a positive impact on quality of life. This project reviewed the individual needs of patients accessing services in MRHT and proved the need for a community based PRP. Resulting from this project a proposal has been forwarded under Sláintecare for consideration to establish a permanent community PRP.

Chronic Obstructive Pulmonary Disease (COPD) Improvement Collaborative project, Naas Hospital Perspective

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¹Department of respiratory medicine, Naas General Hospital

²HSE Dublin South, Kildare & West Wicklow Community Healthcare

Introduction

The average length of stay for a patient presenting with an acute exacerbation of COPD (AECOPD) is longer in Naas General Hospital (NGH) compared to the national average: 8 v 6.9 days nationally. Furthermore, patients in NGH with AECOPD can wait up to 3 days for review by a member of the specialist respiratory team. The aim is to reduce length of stay (LOS) of COPD patients being admitted with AECOPD hence improving their inpatient experience and improve access to respiratory specialist review.

Background

COPD is an incurable illness affecting the lungs which can have significant extra pulmonary manifestations. Ireland has the highest hospitalisation rate for exacerbations of COPD among selected Organisation for Economic Cooperation and Development (OECD) countries.

The respiratory team of NGH joined the National COPD Improvement Collaborative in July 2018. An improvement collaborative is a short-term learning system that brings together teams from different hospital sites to seek improvement in a specific subject area.

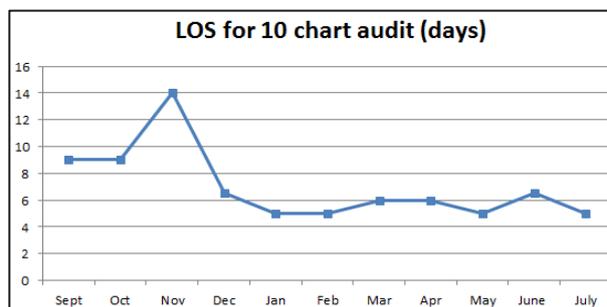
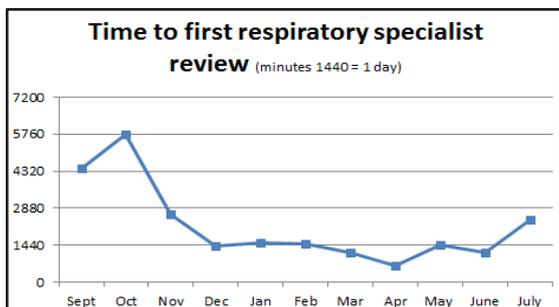
Methods

Using the Model for Improvement, a team was established with a respiratory consultant as the clinical lead and included a respiratory physiotherapist and nurse specialists. Process mapping was used, and baseline data collected to gain an insight into the complexities of our current system. Subsequently, SMART aims and driver diagrams were developed, change ideas were generated and tested using the PDSA cycle. A respiratory nurse attended the emergency department to screen for patients attending with AECOPD and a COPD management bundle was introduced at the point of triage. Data was collected on a monthly basis which was sent to the National COPD Improvement Collaborative Team in Royal College of Physicians (RCPI).

Results

Median LOS was reduced from 8 to 5 days.

Time from registration to first respiratory specialist review improved by 2 days.



Conclusion

By introducing early respiratory review there was a reduction in LOS from 8 days to 5 days. Time from patient registration to review by respiratory specialist improved by 2 days. Furthermore, introduction of COPD management bundle ensured that every patient attending with AECOPD received standardised care.

Introduction of a Discharge Care Bundle for patients admitted to hospital with an Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD) to Nenagh Hospital

Caoimhe Gilmore, Physiotherapist and Olivia Quinn, Respiratory CNS, Dr Tom Pierce, Respiratory Physician.

Nenagh Hospital, Co Tipperary - University of Limerick Hospitals Group

Introduction

Utilising care bundles during acute COPD exacerbations results in fewer complications, reduced length of stay and readmissions. The Model 2 Hospital teams (Nenagh and Ennis), and the UHL (University Hospital Limerick), agreed to developing a collaborative Admission and Discharge Care Bundle. Nenagh hospital implemented the Discharge bundle.

Background

When we commenced our project the gaps in COPD care became apparent. A confirmed diagnosis via Spirometry was not evident, inhaler technique was not provided as standard, and referrals to the respiratory services with follow up care was not always completed. We designed and implemented a Discharge Bundle and considered how each element could be successfully completed.

Methods

Stakeholders were identified, which included the local COPD support group. Process mapping showed no standardised care or assessment tool. Our SMART aim being established, PDSA's were created. We collaborated with UHL and Ennis hospital to discuss common barriers and develop shared strategies to improve outcomes. For example, an initial PDSA for Spirometry, led to three further PDSA's (1. Done 2. Accessible 3. Performed).

Staff training sessions were provided for the multidisciplinary team. A trial in draft format was commenced. Amendments were made based on feedback.

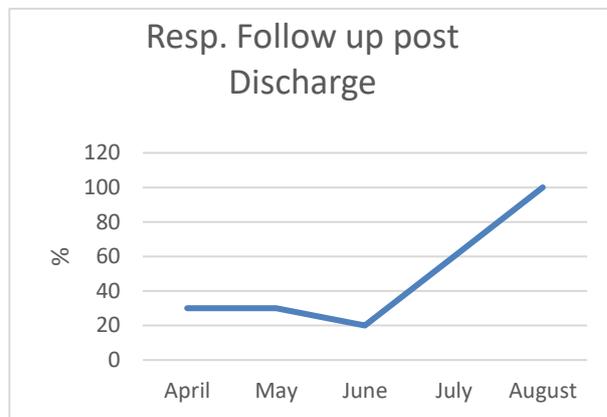
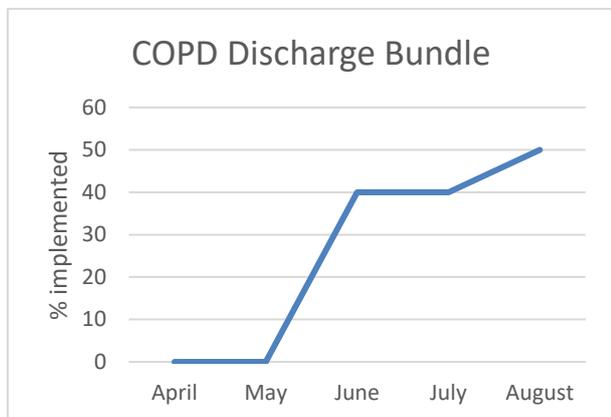
Results

50% of patients admitted now have a discharge bundle; however, there was no change in length of stay.

Spirometry results now accessible by electronic database and hard copy. The collaboration with ULHG has led to a shared access folder set up by the Pulmonary Function Lab in UHL.

Nursing staff viewed inhaler technique as a low priority, time consuming task. Inhaler training was provided for 53% of nursing staff, with user friendly checklists provided. NCHD's acknowledged not knowing inhaler devices and therefore did not consider patient suitability. Post training, enhanced knowledge was reported.

Referrals to the respiratory team increased from 20% to 100%. Although recorded in the medical chart, and not the discharge bundle, the balancing measure for the patient is positive.



Conclusion

Working collaboratively with ULHG to implement care bundles for AECOPD, allowed us to identify gaps in the COPD service and challenge common barriers across sites. The onsite process required consultant input, ward champions, and an increased presence of respiratory staff at ward level to establish the care bundle. Although we did not achieve 100% of our goals, the positive outcomes have demonstrated that small successes are achievable.

To improve the acute management of COPD exacerbations in Our Lady of Lourdes Hospital in the following domains: inhaler technique, self-management plan and discharge bundle

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Introduction

Only 10% of patients had their inhaler technique assessed as an in-patient and 0% received a self-management plan and discharge bundle. The aim was to achieve and sustain 80% of patients having their inhaler technique checked and for 100% of patients to receive a self-management plan and discharge bundle by January 31st, 2019.

Background: Our initial audit results showed inconsistent assessment of patient's inhaler technique and a lack of discharge planning and self-management plan. Inhaler device errors are associated with an increased rate of COPD exacerbations. Training in inhaler use is an integral part of COPD management (Molimard M, et al. 2016). Ospina et al. (2017) found evidence that discharge bundles are likely to reduce re-admissions after acute exacerbation of COPD. Self-management interventions improved health related quality of life compared with usual care (Lenferink et al. 2017). The self-management plan available was underutilised as it was considered not user or patient friendly.

Methods

The inhaler technique checklist from the National Asthma Council Australia was amended to include all inhalers licenced for COPD management in Ireland. Unfortunately, years of inhaler technique education with nursing staff had failed and a different approach was required. Physiotherapists were willing to assess inhaler technique as part of their in-patient treatment and were provided with education and laminated checklists. The Respiratory MDT made a commitment to ensuring inhaler technique was checked in all patient contacts e.g. Oxygen Therapy Clinic (OTC), Pulmonary Rehabilitation (PR) assessments and home visits.

A new self-management plan and discharge bundle was developed based on a review of national and international resources, MDT discussion and patient consultation. The discharge bundle was designed in sticker format for ease of use.

Results: Inhaler technique improved from 10% to 100% by January 2019. In addition, in June 2019 75% of patients seen in OTC and 100% of patients seen in PR had their inhaler technique assessed. Use of the discharge bundle and self-management plan improved from 0% to 100% by January 2019. Sustainability has varied depending on annual leave, staffing resources and time of presentation to hospital.

Conclusion

There is evidence for the importance of correct inhaler technique and the use of self-management plans and discharge bundles. Through MDT teamwork and patient consultation, we were successful in improving these aspects of patient care.

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Ensuring all COPD patients have a documented diagnosis with spirometry

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Introduction

Chronic obstructive pulmonary disease (COPD) is significantly under reported. It is thought that 200,000 people living with COPD in Ireland are undiagnosed. We planned to increase the number of patients with a documented diagnosis of COPD by spirometry from a baseline of 10% to 100% by September 2019.

Background: The National Clinical Care Programme focuses on standardising the care and management of acute exacerbations of COPD (AE-COPD). First it was required to recognise this group of patients by ensuring they had a documented diagnosis. Previously there was no respiratory Physiologist service in Portiuncula which left most patients labelled as opposed to diagnosed. The appointment of two physiologists and a new respiratory laboratory also motivated us to achieve 100% documented diagnosis of COPD.

Methods

We used the model for improvement and a series of Plan, Do, Study, Act (PDSA) Cycles to test changes that we predicted would improve the number of patients with a documented diagnosis of COPD. The primary drivers were to ensure all spirometry results were available in the patient's chart which required firstly having the test performed and secondly having it documented as performed. We created a section in the integrated care pathway (ICP) to ensure this. It involves documenting the date performed, where it was performed and the post bronchodilator FEV1 value. Individual PDSA cycles studied the effect of this change. This section on the ICP was expected to be completed within 24hrs of admission. Initial education sessions were held with the Respiratory team including nurse specialists and physiotherapists. This resulted in good uptake increasing the number of documented spirometry to 50%. After a changeover of staff, the improvement dipped, and we rolled out education sessions again emphasising the importance of diagnosed COPD to improve care at presentation to A&E and to improve the overall journey for the patient. We collected data monthly to ensure sustainability of our project. We plotted the progress on a run chart and presented it to relevant staff to continue encouragement.

Results

Documented spirometry increased significantly from 10% to 90% in the 12 months, just below our goal of 100%. Process measures indicate documented spirometry (10-80%) in the 5th month allowing for classification of COPD and preferred therapies according to the GOLD guidelines meant accurate assessment and management of AE-COPD.

Conclusion

Having tested ideas and implemented the change that contributes to improvement, including an area in the ICP to document spirometry we have removed all the old ICPs to ensure old habits don't return. We will continue to test with monthly data collection to ensure a safe, standardized patient journey for the COPD patient.

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Improving the standards of care for patients admitted with an acute exacerbation of COPD (AECOPD) in Carlow-Kilkenny

Dr Brian Canavan Consultant Respiratory Physician, Dr Shahzad Qaisar Respiratory Registrar, Dr Kevin Millar Respiratory Registrar, Cathrina Kenny candidate Advanced Nurse Practitioner (Respiratory), Elizabeth Ryan Respiratory Clinical Nurse Specialist, Stephanie Hyland Senior Physiotherapist, Aisling McDonald Senior Respiratory Physiologist, Brian Fitzgibbon Senior Physiotherapist (Respiratory Integrated Care), Kate O'Connor Self-Management Support Co-ordinator SECH, Emily Dunne Pharmacist, Rosaleen MacUistin Clinical Nurse Specialist (Respiratory Integrated Care).

St. Luke's Hospital, Kilkenny

Introduction

Co. Carlow has the fourth highest hospitalisation rate in Ireland according to 2015 ESRI data. Our **global aim** is to standardise and improve care for patients with COPD in Carlow-Kilkenny.

Our **SMART aims** were (i) to increase the number of patients admitted with AECOPD with a DECAF Score (Dyspnoea, Eosinopenia, Consolidation, Acidemia and Atrial Fibrillation) documented from 0% to 100%, and (ii) to increase the number of nurses trained on inhaler technique education from 0% to 100% on a 14 bedded medical/surgical ward (Ward 7).

Methods

1. An integrated multidisciplinary team met fortnightly.
2. The model for improvement which utilises Plan, Do, Study, Act (PDSA) cycles was used to drive change.
3. Extensive stakeholder engagement including patients living with COPD.
4. AECOPD admission bundle which included the DECAF score and an inhaler technique education pathway for patients was tested.
5. Grand rounds and education targeted at medical teams and acute floor nursing staff on DECAF score.
6. On the ward standardised education sessions for nursing staff on inhaler technique supported by an education checklist, www.asthma.ie app on ward computer, pharmacy input, ward resource folder, drug trolley reminders & COPD intervention sticker.
7. Visual prompts were utilised including prompt cards and posters.
8. Run charts were displayed on the acute floor and test ward to drive improvement.

Results

1. The percentage of patients with AECOPD who had a DECAF score documented on admission increased from 0% to a median of 50% as illustrated in Figure 1.
2. 92% (n=13) of nurses on Ward 7 received standardised inhaler technique education. Nine on the ward training sessions with Respiratory CNS from March to Sept 2019. Refer to Figure 2.
3. Physiotherapists, pulmonary rehabilitation & respiratory medical & nurse-led outpatient clinics have also led the distribution of self-management plans to patients with COPD. This was further supported by the Respiratory Integrated Care CNS educating patients on the plan in GP practices.

Balancing measures included appropriate admission/discharge based on the DECAF score with timely escalation of care. The impact of our staff inhaler education project on the numbers of patients on Ward 7 receiving inhaler technique prior to discharge is the next phase of this project. Implementation of these projects proved time consuming for the team due to significant educational and informational input.

Conclusion

Our local COPD improvement collaborative projects have promoted enhanced teamwork, patient engagement, standardised care and focused us on measuring meaningful outcomes. Through small tests of change there has been a positive increase in the use of the DECAF score as the standardised, evidence-based COPD assessment tool along with an improvement in the quality of inhaler technique education for patients. At times this proved challenging due to resources and time & financial constraints. We intend to continue to use PDSA methodology to drive sustainable improvements in clinical and patient-centred outcomes for patients with AECOPD.

Improving the Patient's Experience of a COPD Exacerbation: Standardising the Clinical Pathway from Admission to Discharge

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St Michael's Hospital Dun Laoghaire

Introduction

The respiratory team in St. Michael's Hospital (SMH) joined the COPD Improvement Collaborative Project with an aim to optimise and standardise the treatment pathway of patients presenting with an exacerbation of COPD (AECOPD) by September 2019. There was no clear pathway for patients with an AECOPD and patients were not guaranteed a review by a respiratory specialist. Treatment was variable and suboptimal. We wanted to ensure that all patients with AECOPD were given all the services provided by the respiratory team.

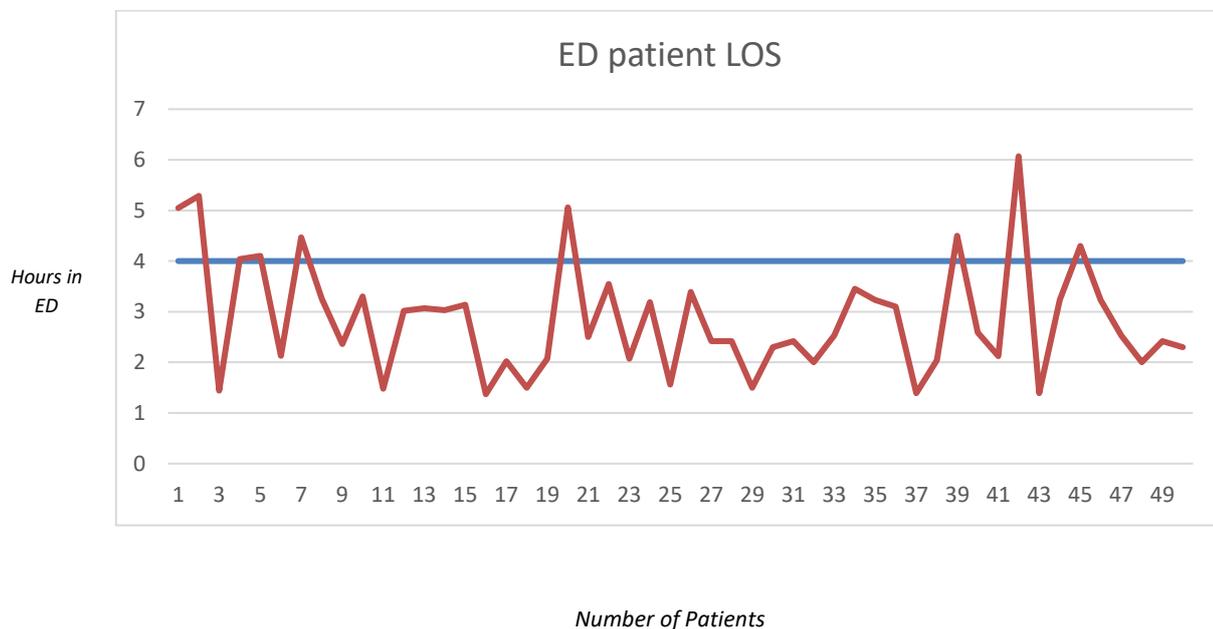
Methods

The members of the collaborative team met fortnightly. A process map was drawn up of the patient journey, from admission to discharge. This highlighted gaps in the service. Driver Diagrams were drawn up to demonstrate our change ideas. In ED, the length of time a patient had to wait was an issue, treatment was not standardised, and management pathways were not being initiated. Two respiratory Advanced Nurse Practitioner (ANP) posts were used to allow a direct access ANP service for patients presenting to ED with AECOPD and to assess patients within 30 minutes of presentation. Education sessions were held in ED to reinforce the standardised management pathway for patients with AECOPD.

On the wards, patients admitted with AECOPD were reviewed within 24-48 hours of admission by a respiratory CNS; a discharge bundle was initiated, decaf score was done, inhaled therapy was optimised and technique checked, education was provided, spirometry performed if required, oxygen assessment/NIV therapy was optimised or put in place, referrals were sent to the smoking cessation service and Pulmonary Rehab as appropriate, and appropriate follow-up was arranged (COPD Outreach and respiratory outpatient appointment). Information sessions were held with the NCHDs in SMH. The respiratory consultant also met with the other consultants to ensure agreement.

Results

Since September 2019, 86 patients have been assessed in ED and 80% of patients with AECOPD were discharged home. Patients were seen by the nurse practitioner within 20 minutes. The median length of ED stay for these patients was 2.5 hours. A reduction of 18% has been seen in the hospital admission rate for AECOPD when compared to the same period last year. Since November 2018, 115 AECOPD cases have been reviewed.



Conclusion

These positive outcomes demonstrate the success of implementing a standardised pathway for patients with AECOPD. Patients have received timely, specialist, evidence-based care from ED through to discharge. The new initiatives put in place are sustainable and can hopefully further reduce COPD admission rates in SMH.

A person-centred nurse led COPD Clinic to Improve access to the Respiratory Service within STGH

Nora McNamara, Dr Ken Bolger.

South Tipperary General Hospital

Introduction

To improve the patient's pathway for diagnosis & management of COPD via specialist review by cANP in a designated COPD Clinic and implementation of a discharge bundle.

COPD Specific Clinic encompasses the following:

- Appropriate Diagnostics: CXR, Spirometry, CT Thorax
- Education: Inhaler technique, chest clearance & breathing technique, smoking cessation, pulmonary rehabilitation, Vaccinations, allied health referrals
- Clinic/Telephone Follow Up
- Consultant Review
- COPD Support Group
- COPD Passport

Background

COPD is often under-diagnosed and inappropriate pharmacological treatments offered. Jan 2019 in STGH: 463 people on the OPD waiting list for the respiratory service with an 18-month waiting time. Emergency department was seeing 3/4 COPD presentations daily.

Goal was to reduce the OPD waiting time for specialist review for a chronic disease such as COPD implement appropriate care bundles, thereby reducing the number of presentations to the ED department.

Method

In Ireland quality is defined by four quality domains; person centred, effective, safe and better health & wellbeing. Quality improvement is the combined and unceasing efforts of healthcare professionals, patients and their families to make changes which will lead to; better patient outcomes, better experience of care and continued development and supporting of staff in delivering quality care. The clinic utilised the Plan Do Study Act (PDSA) method for quality improvement.

Results

Waiting time for specialist review reduced from 78 weeks to 53 weeks. Specialist Nurse led clinics are a resource when utilised are an effective method to reduce waiting lists and will reduce the cost burden to the hospital.

Figure 1: Clinic data from Jan to Aug 2019

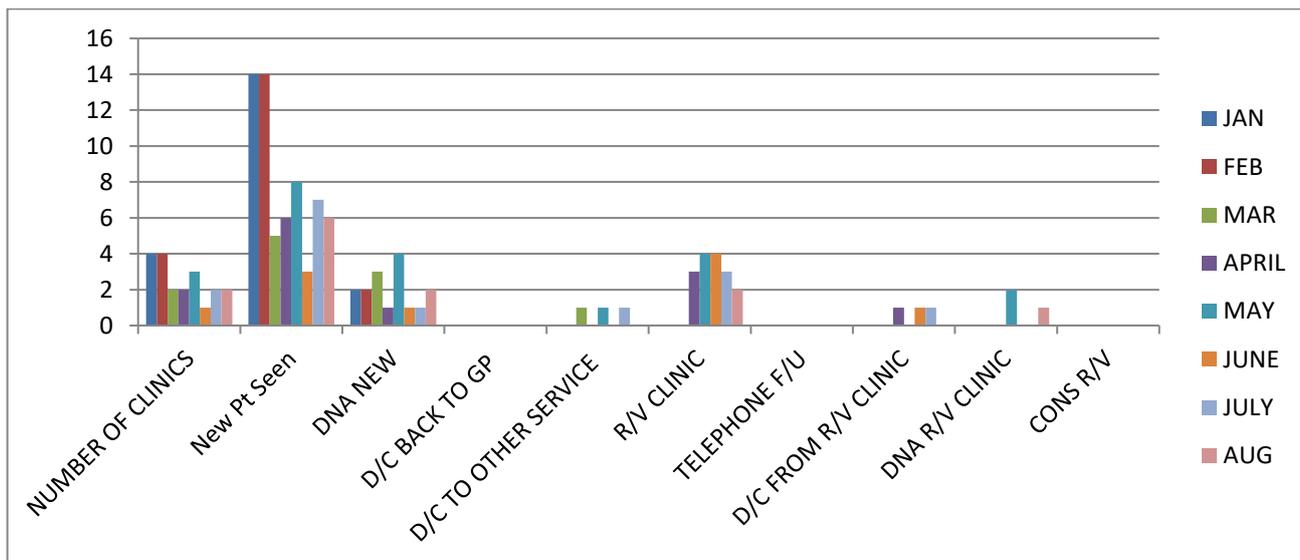
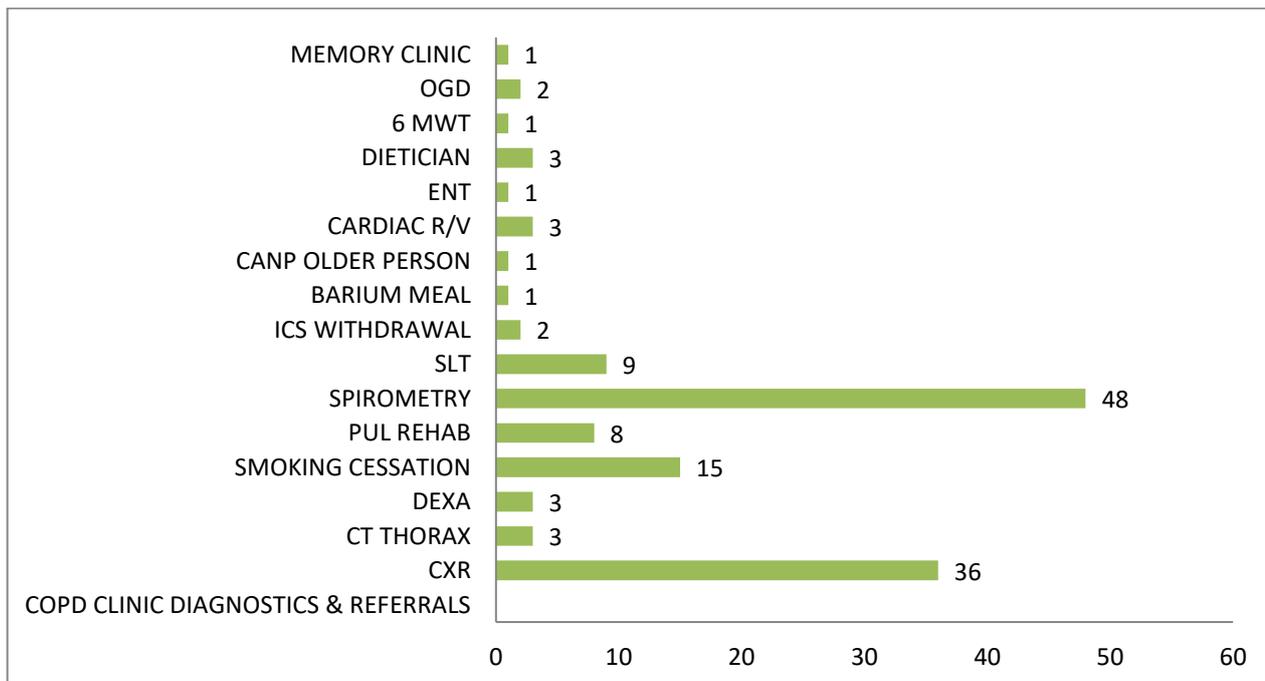


Figure 2: cANP Diagnostics and Referrals for optimum management



Conclusion

The focus of this pathway was to provide a streamlined pathway for “stable symptomatic” COPD patients, those who would be unlikely to present via the ED but whose QOL would be low and day-to-day symptom burden would be high.

A prompt review by a specialist healthcare professional has led to initiation of appropriate medication bundles, grading of disease severity and referral to other in-house specialities to manage and minimise symptoms. Control of long-standing symptoms and risk avoidance has been shown to reduce unscheduled care visits.

The pathway has allowed patients to be seen and managed, who otherwise would have been waiting up to two years to be seen on a consultant led OPD.

Patient satisfaction with the pathway remains high.

Implementation of a quality improvement programme to optimise management of acute exacerbation of COPD (AECOPD) in Tallaght University Hospital (TUH)

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Tallaght University Hospital

Introduction

Data submissions to the COPD Collaborative identified local deficits in our management of AECOPD that required addressing. We narrowed focus to 3 areas: absence of a COPD care bundle, zero use of DECAF and overuse of IV steroids and/or antibiotics. Our goal was to introduce a care bundle, incorporating DECAF, by mid-July 2019, and simultaneously launch an education campaign to promote knowledge/use of DECAF. Our SMART aims were (1) to achieve 50% compliance with the bundle and DECAF and (2) reduce IV therapy use to 50%, by 4.9.19.

Background

The bundle went through multiple iterations with input from multiple stakeholders. We conducted education sessions on the bundle and DECAF in ED/AMAU. A major challenge was “policing” adherence to the new initiatives, as we are a small team with limited time/resources. We expect this to be an incremental process, with increasing uptake over time, and anticipated that our results would reflect this.

Methods

We launched the care bundle and DECAF in ED and AMAU on 15.7.19. We allowed 4 weeks to enable the initiatives to embed. We conducted audit over a 3-week period. This was a prospective audit on patients presenting with AECOPD. The audit measured compliance with the bundle, adherence to DECAF and use of IV steroids/antibiotics.

Results

14/26 patients (54%) had the care bundle completed. We have, however, noted week-on-week improvement in adherence. 4 out of the first 10 patients (40%) had the bundle completed, compared to 7 out of the last 10 (70%). 13/26 had DECAF calculated (50%). Again, a positive trend has emerged: 3 out of the first 10 patients had DECAF calculated (30%), compared with 7 out of the last 10 (70%). 15 patients (58%) receiving IV steroid and/or IV antibiotic. There has been no downward trend to date in IV therapy usage.

Conclusion

We achieved, and exceeded, our first SMART aim in terms of compliance with the care bundle and DECAF. We did not *quite* achieve our second SMART aim in terms of IV therapy usage. The data, although

encouraging, indicates that ongoing intense focus is required to embed these initiatives into clinical practice in TUH. Measures to achieve this include education session at Grand Rounds, use of DECAF screensaver on hospital PCs, further education/feedback sessions. Feedback has been positive, however, further engagement with stakeholders is required over the coming months to build on these early tentative successes.

The implementation of a COPD management intervention bundle with a DECAF assessment to improve appropriate assessment and management of acute exacerbation of COPD

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University Hospital Limerick

Introduction

We looked at the intervention and assessment of COPD patients presenting to AMAU Limerick to improve their management and aid in their decision making. We found a lack of availability of a confirmed diagnosis of COPD available within the UHL hospital i.e. spirometry/PFT's. We wanted to achieve something small within respiratory services that will improve outcomes and could be a positive to all medical teams.

Background

COPD (chronic obstructive airways disease) is defined as a disease characterised by persistent respiratory symptoms and airflow limitations that are due to airway and/or alveolar abnormalities that are usually a result of exposure to noxious particles or gases (GOLD 2018). COPD exacerbations are then defined as an acute worsening of respiratory symptoms that require additional therapy. Admissions of COPD exacerbations within the University Hospital Limerick group are not standardised and there is a lack of evidence-based knowledge.

A COPD admission intervention bundle was implemented with the aim of improving care and reducing readmissions for patients admitted to the AMAU with acute exacerbations of COPD. The goal for this project was to improve the overall care for COPD exacerbating patients and to standardise treatment for this group of patients. Evidence-based care has been shown to improve quality of life, reduce length of stay and on occasions avoid hospital admission. The admission bundle allowed for a more streamlined approach of the standardised treatment for this patient group.

When patients experience exacerbation there is a lack of assessment tools to predict prognosis of patients hospitalised with acute exacerbation of COPD (AECOPD) subsequently a DECAF assessment tool was implemented. The DECAF tool is a simple but effective predictor of mortality in patients hospitalised with exacerbation of COPD and proves beneficial to clinicians to more accurately predict patient outcomes and levels of care (Steer et al. 2012). The DECAF tool is showing promise in identifying early discharge and more appropriate care for acute patients (Steer et al. 2012).

Methods

- Identified a need for change in the management of patients presenting with AECOPD.
- A stakeholder group was established to focus on the current flow for patients presenting with AECOPD.

- All stakeholders were informed of the plan to improve patient care and the 'COPD acute management intervention bundle and DECAF assessment tool' was devised.
- The bundle was reviewed regularly and PDSA's were completed to improve the standardised approach.
- A team specifically designated for the implementation of this project would be the GOLD standard to ensure all AECOPD patients are captured.

Results

- The care bundle is implemented in the AMAU department with the overall care of AECOPD patients being improved.
- Spirometry results are available on a shared database for all respiratory patients.
- Staff of the AMAU department have gained evidence-based knowledge on AECOPD patients.
- As a result of the DECAF tool being implemented clinicians are now prompted to consider early discharge.

Conclusion

The COPD management intervention bundle and DECAF assessment tool has significantly proven the importance of standardised care. A designated team to capture all AECOPD patients presenting to ED/AMAU throughout the hospital group would reduce admissions, exacerbations and improve quality of care. This team would manage AECOPD patients throughout their journey to include ED/AMAU, follow up clinics and further chronic management of disease.

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