ROYAL COLLEGE OF PHYSICIANS OF IRELAND

COPD National Collaborative Interim Report

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Contents

Abbreviations used in this document

COPD	Chronic Obstructive Pulmonary Disease
AECOPD	Acute Exacerbation of COPD
OECD	Organisation for Economic Co-operation and Development
CSPD	Clinical Strategy and Programmes Division
NCPCOPD	National Clinical Programme for COPD
RCPI	Royal College Of Physicians of Ireland
QI	Quality Improvement
ED	Emergency Department
DTA	Decision to Admit
AM(A)U	Acute Medical (Assessment) Unit
IHI	Institute for Healthcare Improvement

Interim Report of the Irish COPD Collaborative

Executive summary

Introduction

A collaborative learning programme is underway with 18 respiratory specialist teams around the country, focusing on improvements in clinical outcomes for patients presenting with AECOPD; including:

- Access to respiratory specialist review
- Compliance with admission clinical bundle
- Use of standardised, evidence-based assessment tools
- Compliance with discharge processes

Benefits of the programme

Benefits seen so far include those in clinical outcomes, improved team culture and patient engagement:

1. Cost savings to the health service may be realised through admission avoidance, reduced length of stay and reduced readmission rates
2. The data available for the first half of the Collaborative is showing a trend towards positive change
3. Patient and carer participants have endorsed the contributions of the team projects towards patient centred care and improved clinical outcomes
4. Enhanced team culture is demonstrated through participant reports of increased sense of teamwork, empowerment and greater confidence in their ability to achieve improvements

Next steps

The Collaborative teams have two further Learning Sessions in May and September 2019. Teams will submit an abstract and poster in addition to continued monthly data collection to September 2019. A final Collaborative Evaluation (qualitative and quantitative) will be presented by December 2019.

Opportunities for sustainability, spread and scale

We propose early consideration of further opportunities to harness and enhance the improvement momentum seen with participating teams and to build further on interest in this QI programme on a national basis. Initially, this may be achieved through concurrent collaboratives, summarised here:

1. COPD Collaborative Cohort 2 - horizontal spread collaborative: open to new hospitals and teams not involved in the first Collaborative

2. COPD Collaborative Phase 2 - vertical spread collaborative: facilitated integrations of acute care teams from the first Collaborative with primary and community care and self-management-support initiatives

Interim Report of the Irish COPD Collaborative

Introduction

The Chronic Obstructive Pulmonary Disease (COPD) Improvement Collaborative is a nationwide quality improvement (QI) programme in Ireland aimed at enhancing care for patients with this chronic and debilitating condition. This interim report sets out the progress and achievements of the collaborative to date and gives an overview of the programme structure required for completion of the Collaborative.

The COPD Collaborative was launched in September 2018, under a joint initiative between the Clinical Strategy and Programmes (CSP), National Clinical Programme for COPD (NCPCOPD) and Royal College of Physicians of Ireland (RCPI). Eighteen consultant-led, multidisciplinary, respiratory teams from nineteen hospitals across Ireland are collaborating to improve care for patients with acute exacerbations of COPD (AECOPD).

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 in the OECD, with marked variation in hospital performance contributing to COPD being the 4th leading cause of death nationally. The significant scope for improvement in hospital performance and inpatient treatment of COPD was a driving factor in designing and developing this national collaborative.

Extent of the COPD burden in Ireland (various sources including NCP COPD, National HIPE data)

500,000	Estimated no. people with COPD in Ireland
200,000	Estimated no. people in Ireland with moderate or severe COPD
€70,813,040.00	Cost of inpatient care for COPD in Ireland, 2014
7 days	Average LOS in hospital in Ireland for COPD admission
	Highest rate of admission in OECD, 2013
	4th leading cause of death in Ireland, 2016

Background

A rapid scoping literature review and national performance data on COPD in Ireland informed a short, initial QI Collaborative pilot for the treatment of AECOPD. South Tipperary General Hospital and St Vincent's University Hospital each supported an improvement team to participate in the pilot project. The achievements of these pilot teams by early 2018 led to the securing of approval and funding for this a national COPD Collaborative.

What is a collaborative?

A collaborative is a short-term learning system, bringing together teams from different hospital sites to seek improvement in a specific subject area. Subject matter experts work with improvement experts, using QI methodology to implement front line change.

Literature review

The early rapid scoping exercise was undertaken to

- Gather data on specific improvement interventions in COPD care that impact patient access to urgent specialist care, admission and discharge processes, and readmissions
- Explore available data informing the design of an improvement approach for implementation of a bundle of specific COPD interventions (the 'change package') for use in the Irish healthcare system

Key themes emerged from this review; although no single intervention has been used successfully to date and there is limited experience in Ireland of implementing COPD interventions, there is evidence for standardised care bundles, validated assessment tools and key recommendations for integrated care pathways to improve clinical outcomes and patient wellbeing.

What is a bundle (of care)?

A bundle is a structured way of improving processes of care and patient outcomes: a small, straightforward set of evidence-based practices (generally 3-5) that, when performed collectively & reliably, have been proven to improve patient outcomes.

Pilot summary

Despite the short timeframe of the pilot, at 10-12 weeks per site, the two participating teams fully engaged with the process, embraced their projects and both saw positive changes within their team structures. This was achieved through learning new QI skills, which are applicable to any care setting or area of clinical practice. Local culture towards QI and patient experience changed, with acutely unwell COPD patients experiencing improvements in care.

Pilot improvements included:

- Increased admission avoidance
- Reduced wait-times in the Emergency Department (ED)
- More timely access to a respiratory specialist team
- Increased post-discharge contact with respiratory specialist teams to support care at home

Patients with non-respiratory conditions also saw benefits as the **number of patients waiting in ED was reduced** and there were recorded examples of **expedited specialist-to-specialist referrals** in both pilot hospitals. For example, the earlier contact with the respiratory specialist team while the patient was still in the ED led to sooner differential diagnosis of non-COPD illnesses and to be redirected to appropriate services such as cardiology, oncology and palliative care.

Overall, the pilot demonstrated progress towards the global aim of improved COPD care and better patient experience. Encouragingly, the **potential for significant cost-saving**, and **positive implications for the spread of good practices** at a national collaborative forum were also demonstrated.

Dissemination of pilot experience

A Pilot Report was presented to the CSP Advisory Group Lead and the COPD Collaborative Working Group, and was also published online, with pilot site permission, via https://www.rcpi.ie/news/releases/patients-with-copd-exacerbation-see-big-improvements-in-care-thanks-to-collaborative-project/

The Pilot Site Team Leads spoke about their experiences at a COPD Collaborative Working Group Celebratory Session and as guest speakers at the first national COPD Collaborative Learning Session.

National COPD Collaborative: the journey so far

Aim

The aim of the national COPD Improvement Collaborative is to improve the quality of care for patients presenting with AECOPD. This aim is facilitated through developing QI skills and applying new approaches to service improvement among hospital-based respiratory teams across Ireland. The collaborative is improving 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 tools
4. Compliance with discharge processes

See appendix 1 for bundle templates

Outcomes for the patient

A key focus of the Collaborative is person-centeredness. Accordingly, members of COPD Support Ireland; a COPD patient and a carer; have been active members of the COPD Collaborative Working Group to date and will continue to be involved for the duration of the collaborative. Patients and carers present to the collaborative learning sessions, while teams are strongly encouraged to involve patient(s) and carer(s) in their improvement efforts and to regularly seek feedback from them.

"the collaborative plan is very patient-centric, reduces the frequency of admission and aims to facilitate people to stay in their own home in a well- supported and holistic way"

(Bernie Murphy, former CEO COPD Support Ireland)

Planning & recruitment

The national collaborative was approved for funding in July 2018. A coordinated, joint recruitment strategy was launched by RCPI, CSP and NCP COPD to communicate with key stakeholders in the health service and generate interest in the programme.

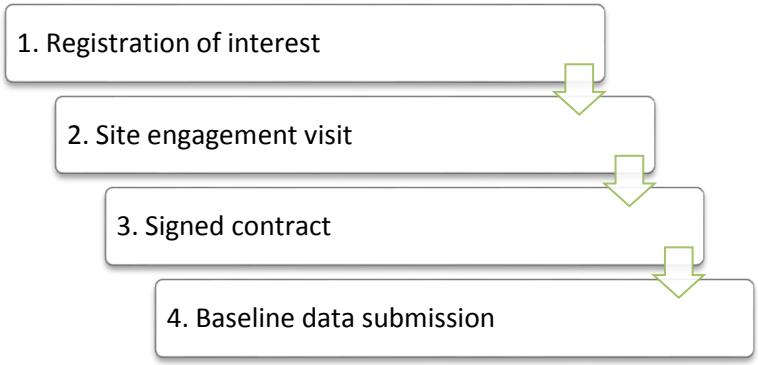
Interested teams were visited and provided with an information pack that included a contract and data submission form. Eighteen teams representing nineteen hospitals joined.

Communications strategy

Media Type	Stakeholder Group	
Letter **Ezine** **Twitter** **RCPI.ie/news**	• Hospital Group CEO/GM • Irish Society of Chartered Physiotherapists • Respiratory Integrated Care Network • NCP & HSE Leads • Hospital CEO/GM	• Irish Thoracic Society • Respiratory Physicians • Anáil Respiratory Nurses Association • COPD Outreach Group • COPD Support Ireland (patient group)

Joining the collaborative

Each site was required to complete the following processes in order to join the Collaborative. Assistance was given by the RCPI Collaborative QI team at all stages, as required:



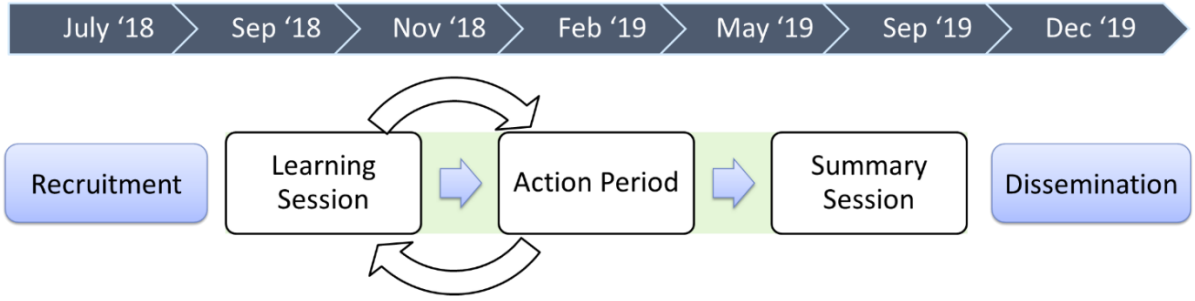
Participating teams (see appendix 2 for map)

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

Programme structure

The COPD Collaborative is a 15-month learning programme, adapted from the Institute for Healthcare Improvement (IHI) Breakthrough Series Collaborative Model. Teams attend 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.

COPD Collaborative Timeline Overview



Team membership

Participating teams are consultant-led, have named sponsorship at senior organisational level and have three to five 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 ED/AMAU staff, as locally applicable.

Collaborative governance

The Collaborative is 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 is supported by a COPD Collaborative Working Group and reports to a joint Advisory Group within CSP.

Collaborative evaluation

A researcher is affiliated to the COPD Collaborative to quantitatively and qualitatively evaluate the programme for dissemination. Several avenues of evaluation are underway including a literature review, monthly national aggregate data to seek overall trends in improvement and a Research Ethics Committee Approval submission pending for a qualitative evaluation arm.

The overall evaluation report will encompass various aspects of the programme including;

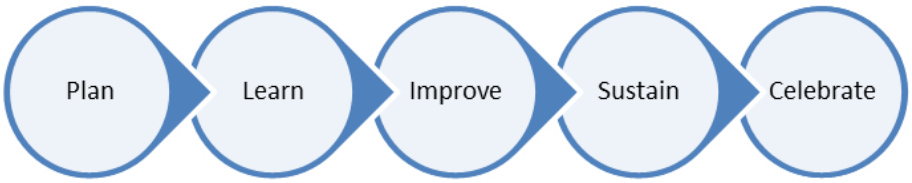
- Clinical outcomes
- Patient-centred outcomes
- Teamwork and staff engagement outcomes

A brief overview of outcomes to date is outlined in the section below; *Progress to Date*.

Progress to date

Teams have now attended the third of five face-to-face, full-day Learning Sessions. Each session represents a block of learning that cultivates the teams' capacity for improvement towards the goal of improved care for AECOPD, from planning to sustaining and celebrating achievements. As a result of supportive planning for locally relevant projects and learning QI methodologies, teams are now seeing signs of improvement within their own team (culture) and setting (clinical goals).

Learning Session content overview



Improvement project areas

All teams are making overall COPD pathway improvements on admission, assessment and discharge through redesign of current pathways or the implementation of new processes. Teams have focused on specific areas for improvement within their own setting, after analysis of their own processes, data and patient input.

Areas for improvement and sample projects

Examples of improvements	Examples of projects
Improvements for patients at presentation: ✓ Timely completion of standard clinical interventions ✓ Timely access to respiratory specialist advice ✓ Standardised assessment to aid decision-making	✓ COPD clinical intervention bundle ✓ Changing referral process for physiotherapy ✓ Reorganising filing and access to spirometry results across team
Improvements with inpatient care: ✓ Inpatient access to respiratory specialist service ✓ Early intravenous to oral medications transition where appropriate	✓ New bleep system from ED to notify respiratory team of a patient ✓ Promoting IV to PO 'switch' as soon as possible after arrival to the ward
Improvements in post-acute care ✓ Improved medicine reconciliation and patient advice ✓ Improved quality of inhaler technique education ✓ Follow up in the community to promote self-management support	✓ Recruit ward nurses to upskill to inhaler training ✓ New ANP-led clinic for newly diagnosed COPD ✓ Development of information packs for patients, based on existing maternity packs

Early signs of improvement

In determining the impact of the Collaborative, several aspects will be considered. Whilst a formal evaluation will be submitted after completion of the programme in December 2019, initial indications are positive.

Data

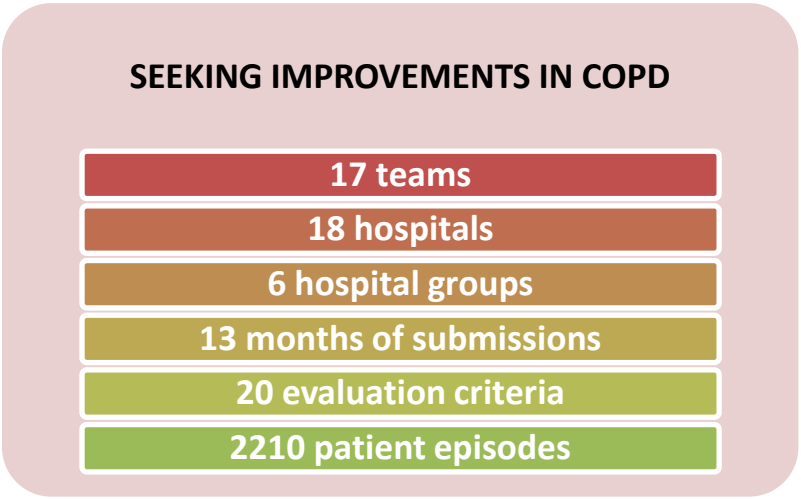
Each team submits a monthly overall dataset based on twenty evaluation criteria that were agreed with the National Clinical Programme for COPD and a respiratory and QI expert group. The data available for the first half of the Collaborative is showing a trend towards positive change.

The criteria set out below represent agreed good practice standards, and teams evaluate their own systems and processes to determine their own priorities for improvement within their resources and ability to influence. Not all teams will impact all criteria on this dataset.

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 (DTA) Length of stay
Admission/presentation clinical interventions	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	Documented evidence of discharge bundle completion Evidence of inhaler technique reviewed prior to d/c 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 hr Evidence of follow up phone call to patient within 7 days

COPD Collaborative Data Outputs



At this half-way point, some early improvement trends are visible, but significant work is required in the second half of the Collaborative in order to sustain these changes. Some examples of the early trends can be seen below, with the *caveat* that it is early in the process to determine real change. Further analysis using monthly data points from the second half of the Collaborative will allow for the determination of whether true improvement has occurred and whether this improvement is sustained. All data presented is aggregate pseudononymised data.

Sample of aggregate data tables updated February 2019, all site data.

Table 1 – Improvement in patient experience time: waiting from first registration to first review by a member of the respiratory team

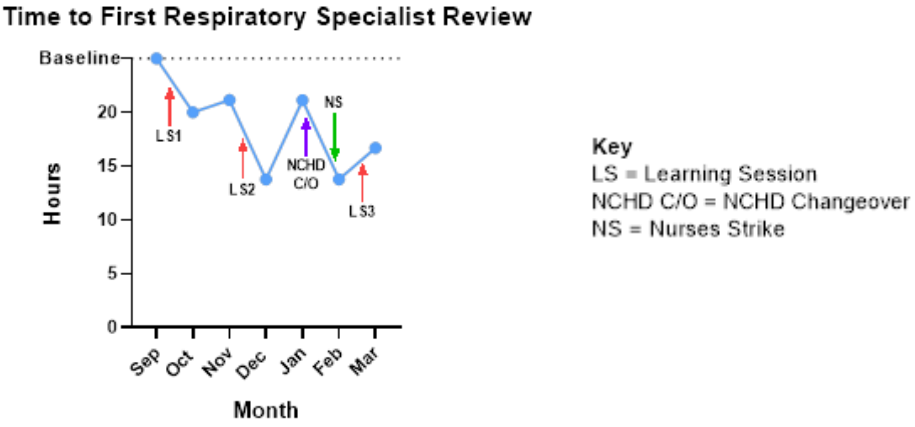


Table 2 – Evidence of use of standardised COPD assessment tool (DECAF Score – (Dyspnoea, Eosinopenia, Consolidation, Acidemia and Atrial Fibrillation) clinical prediction tool used in patients with AECOPD)

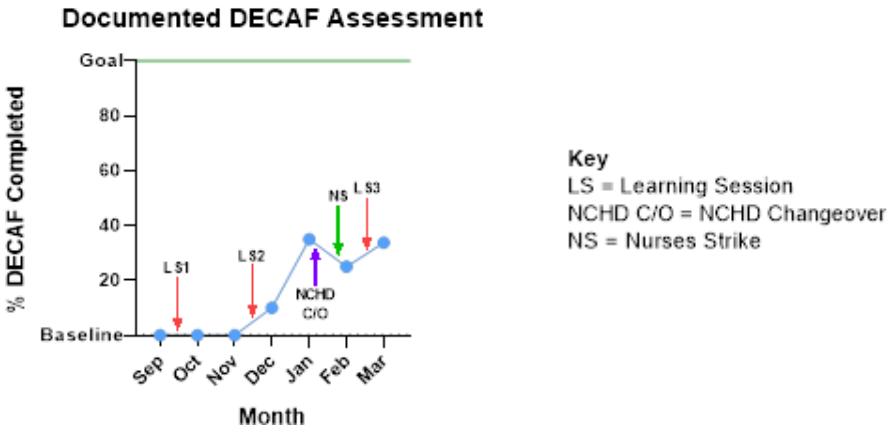


Table 3 - Improvement in diagnosis confirmation via spirometry testing (determined by availability of test results in patient's healthcare record to facilitate treatment in acute exacerbation presentation)

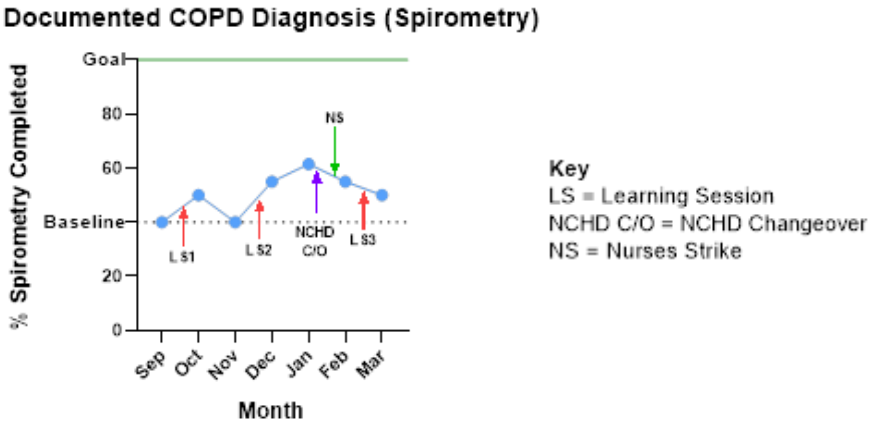


Table 4 - Improvement in length of stay

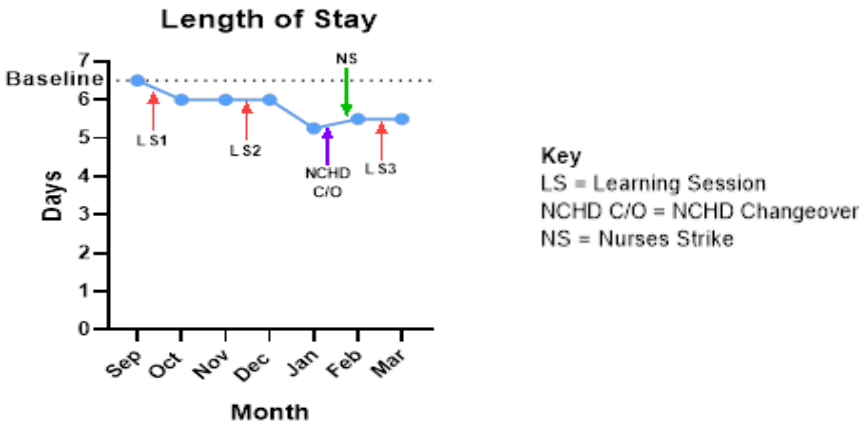
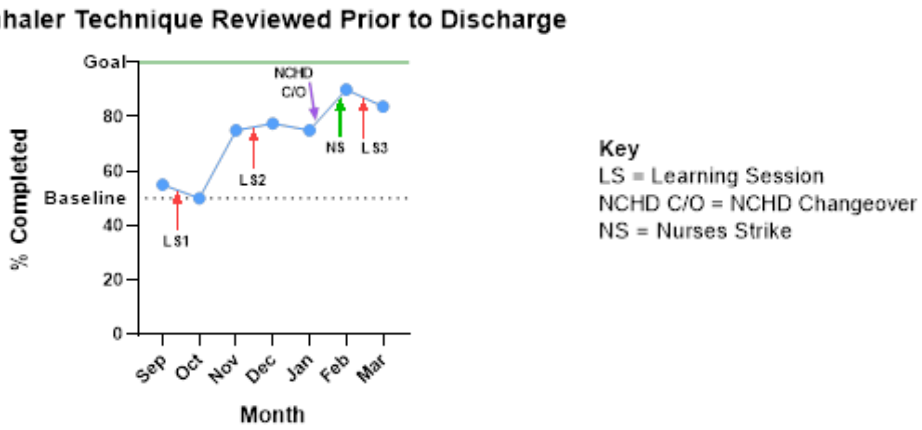


Table 5 - Percentage of patients receiving inhaler technique review or support before discharge home



Potential Cost Savings

Cost savings are anticipated 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.

In one pilot site, a simple economic analysis indicated potential savings of 1700 bed days, equating to a possible cost reduction in COPD care of between €1,304,750 - €2,735,725 in that hospital alone, if the pilot pathway (direct access to respiratory specialise and enhanced decision making) was embedded into practice.

The national COPD collaborative is in its early stages in terms of data collection and project maturity. It would be premature to estimate national cost savings at this juncture, although many projects which are underway will have cost saving implications, already apparent in the reducing length of stay data (table 5 above).

Some project examples and opportunities for cost reduction are provided in the table below.

Project focus	**Potential improvements leading to cost saving**
More timely access to respiratory specialist care	Admission avoidance Length of stay
Increased compliance with clinical intervention bundle on presentation	Admission avoidance Length of stay
Switch to oral medications (from or in place of intravenous) where appropriate	Admission avoidance Length of stay Peripheral line infection rate Cost of consumables Nursing clinical workload/time
Increased compliance with self-management support interventions for discharge	Reduction in unplanned presentations to ED Decrease in readmission rate

Patient and carer feedback

Members of the Irish support network, COPD Support Ireland are active members of the COPD Collaborative Working Group and attend the Collaborative as speakers and active patient advisors. Teams are strongly encouraged to involve patient(s) and carer(s) in their improvement efforts and to regularly seek feedback from them. Patient and carer participants have endorsed the contributions of the team projects towards patient centred care and improved clinical outcomes. The interim data already presented demonstrate visible

improvements in patient experience (wait) times for aspects of care and other dataset elements provide for evaluation of person-centred care in preparation for discharge from acute care.

Participant feedback

Participant experience is evaluated at every session. At this midway point, teams are demonstrating confidence in the process and consideration of what matters to their patients and carers. Participants have reported increased sense of teamwork, empowerment and greater confidence in their ability to achieve improvements.

"Keep momentum going, success can convert those resistant to change"

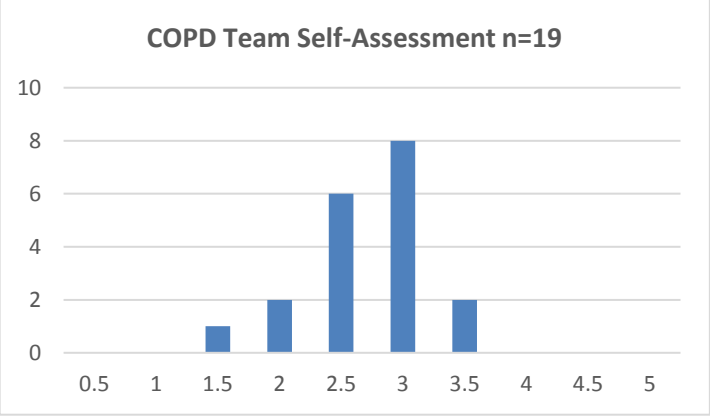
"Feel delighted that we are as far on as we are, we are making progress and looking forward to working on the next stage and measuring"

"Importance of communication with carer not only patient"

"Small changes, PDSA everything, Measure, measure, measure!"

Teams are self-assessing their improvement progress according to a modified assessment scale for collaboratives. At the third Learning Session, an overwhelming majority of teams, 74%, rated themselves as either 2.5, 'testing changes and not yet seeing improvement' or 3.0 'modest improvements seen'.

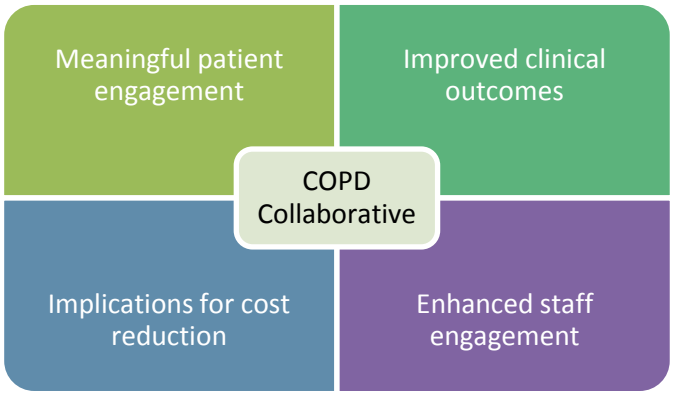
Learning Session 3 26 February 2019 team self-assessment exercise results



Legend	
0.5	Intent to participate
1.0	Forming the team
1.5	Planning for the project has begun
2.0	Activity but no changes
2.5	Changes tested but no improvement
3.0	Modest improvement
3.5	Improvement
4.0	Significant improvement
4.5	Sustainable improvement
5.0	Outstanding sustainable results

Summary of programme benefits

The COPD Collaborative is working in partnership with 18 teams from 19 hospitals across Ireland to seek opportunities for sustainable improvements in clinical outcomes for patients presenting with AECOPD. In addition to clinical benefits, participating team members are experiencing enhanced team culture and staff engagement through working collaboratively in their local settings. At Collaborative level, patients and carer representatives have been meaningfully engaged at all stages, from planning and oversight to providing team support at a coaching level at Learning Sessions. At a local level, team members regularly gather patient stories to guide improvement and are asked to incorporate patient feedback in all areas of their improvement journey.



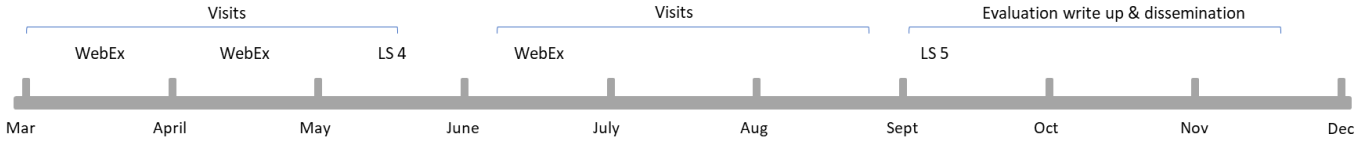
Robert Collins Award

The success of the COPD pilot as a quality intervention was recognised in winning the Robert Collins Award at the RCPI/ISQua Quality in Healthcare Summit in March 2019. This award is given to the individual or team whose quality improvement project has demonstrated an outstanding contribution to quality and reliable care in a healthcare setting. (see appendix 4 for poster)

National COPD Collaborative next steps

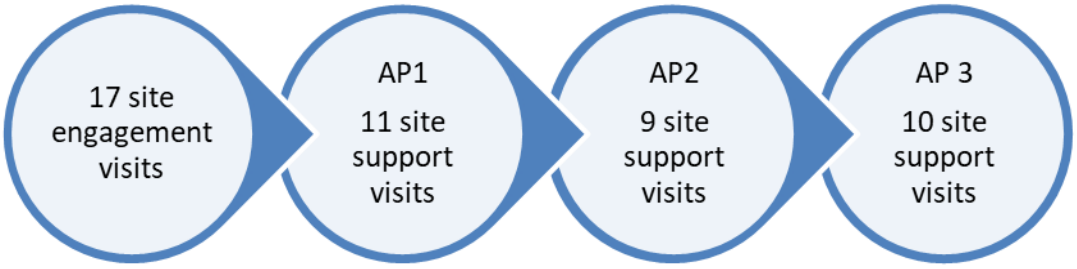
The COPD Collaborative teams have reached the midway point of the programme. The two remaining Learning Sessions will focus on sustaining and celebrating improvements. During the remaining Action Periods, RCPI QI Faculty will continue to link with the COPD Collaborative Working Group and NCP COPD in co-designing session content. Through site tutorials, WebEx and remote communications, the faculty will maintain support for the teams on an individual level to drive improvements.

Timeline



Actions for teams

Teams will continue to progress their change projects and measure outcomes. Site support visits, WebEx tutorials and coaching sessions will be regularly scheduled until the final Celebration Session in September 2019.



Reporting obligations

- Activity reports are compiled after Learning Sessions that include a review of the preceding Action Period.
- An agreed monthly activity report is submitted to CSP.
- A final COPD Collaborative report will be presented to CSP and the COPD Collaborative Advisory Group by 1 December 2019.

Evaluation & dissemination

Evaluation

- Literature review completed by June 2019
- Quantitative summation due 1 November 2019
- Qualitative evaluation report due 1 December 2019

Dissemination

- The COPD Collaborative is actively promoted on Twitter by RCPI_QI
- A regular newsletter is issued to a wide distribution list of stakeholders and interested parties.
- The COPD Collaborative Pilot was accepted as poster presentation at RCPI/ISQua QI Summit in March 2019 and won the Robert Collins Award
- The COPD Collaborative Pilot and national Collaborative were accepted as poster presentations and inclusion in a book of abstracts for the IHI International Forum in Glasgow, March 2019
- Two submissions to ISQua Conference in Cape Town, October 2019; one poster and one 45-minute QI session
- Publication of the literature review and evaluation reports is intended

Appendix 1 – COPD Collaborative bundle templates for local adaptation

COPD Collaborative Acute Management Intervention Bundle

Acute management of AECOPD

To improve patient safety with
- Early detection and clinical response to respiratory distress and failure
- Timely and accurate diagnosis of COPD

Diagnosis confirmation

➔ Is there documented evidence of COPD diagnosis?

If no, ensure that spirometry is booked during this admission

Patient assessment

➔ Complete DECAF score to assist clinical decision making regarding
- Appropriate admission
- Escalation of care
- Mortality risk
- Early supported hospital discharge
- Early discussion of palliative care

Treatment

➔ Initiate standard clinical interventions
- Maintain oxygen saturations 88-92%
- Nebulised bronchodilators
- Steroids*
- Antibiotics*

**Note: Oral agents are recommended as first line treatment. Reserve the use of intravenous therapies for those who are unable to take oral therap*

→ **Early specialist respiratory input**

	DECAF score	*Circle*
D	Pre-exacerbation MRC Dyspnoea score *(In the past 3 months, when you were feeling at your best, which of the following statements best describes your level of breathlessness?)* eMRCD 5a (too breathless to leave house unassisted but independent in washing and/or dressing) eMRCD 5b (too breathless to leave house unassisted and requires help in washing and/or dressing)	1 2
E	Eosinopenia (eosinophils <0.05x109/L)	1
C	Consolidation	1
A	Moderate or severe acidaemia (pH<7.3)	1
F	Atrial Fibrillation (including history of paroxysmal atrial Fibrillation)	1
	Total score	

The National Clinical Programme for COPD and RCPI COPD Collaborative Working Group recognises that local services may add to the contents of this Acute Management Bundle to fit with local need. **Deletions are not permitted.**

COPD Collaborative Programme Discharge Planning Bundle

Making care safer through a person-centred approach to:

- Engaging with COPD patients/carers before discharge to assess readiness
- Providing clear information regarding ongoing care and treatment
- Advising on recognition of deterioration and pathways for follow up

Patient label

Date of admission: ____/_____/_____

	AECOPD discharge bundle		Tick	Print initials
1	Review patient's medications	Inhaler technique checked	Yes ☐ No ☐	
		Medications reviewed with patient	Yes ☐ No ☐	
2	Review patient's maintenance prescription	Prescription reviewed	Yes ☐ No ☐	
3	Provide written self-management plan and rescue plan	Self-management plan	Yes ☐ No ☐	
		Rescue plan for exacerbation	Yes ☐ No ☐	
		Point of contact provided	Yes ☐ No ☐	
4	Arrange outpatient care before discharge	OPD appointment provided to patient	Yes ☐ No ☐	
5a	**ALL PATIENTS** Follow up phone call within 72 hours of discharge	Patient has agreed to be contacted	Yes ☐ No ☐	
		Date of call to patient	___ / ___ / ___	
PEARL Score ____ *(circle one)* Low Risk ☐ Intermediate risk ☐ High risk ☐ - complete 5b				
5b	**HIGH RISK PATIENTS** Second follow up phone call within 7 days of discharge	Patient has agreed to be contacted	Yes ☐ No ☐	
		Date of call to patient	___ / ___ / ___	

PEARL score for risk of readmission		Score *(circle)*
P	Previous admissions: history of more than two hospital admissions	3
E	eMRCD score: 4 (not too dyspnoeic to leave the house) 5a (too dyspnoeic to leave the house, but independent with washing/dressing) 5b (too dyspnoeic to leave the house and to wash/dress unaided)	*(circle one)* 1 2 3
A	Age: 80 or older	1
R	Right ventricular failure: cor pulmonale (based on clinical examination or echocardiogram findings)	1
L	Left ventricular failure	1
	Total score	
Risk level (circle):	Low: Score 0-1 Intermediate: Score 2-4 High: Score 5-9	

PEARL assessment completed and results discussed with patient *(with carer present as appropriate)*	Sign _____	Print _____	IMC _____
	Date: _____	Time _____	

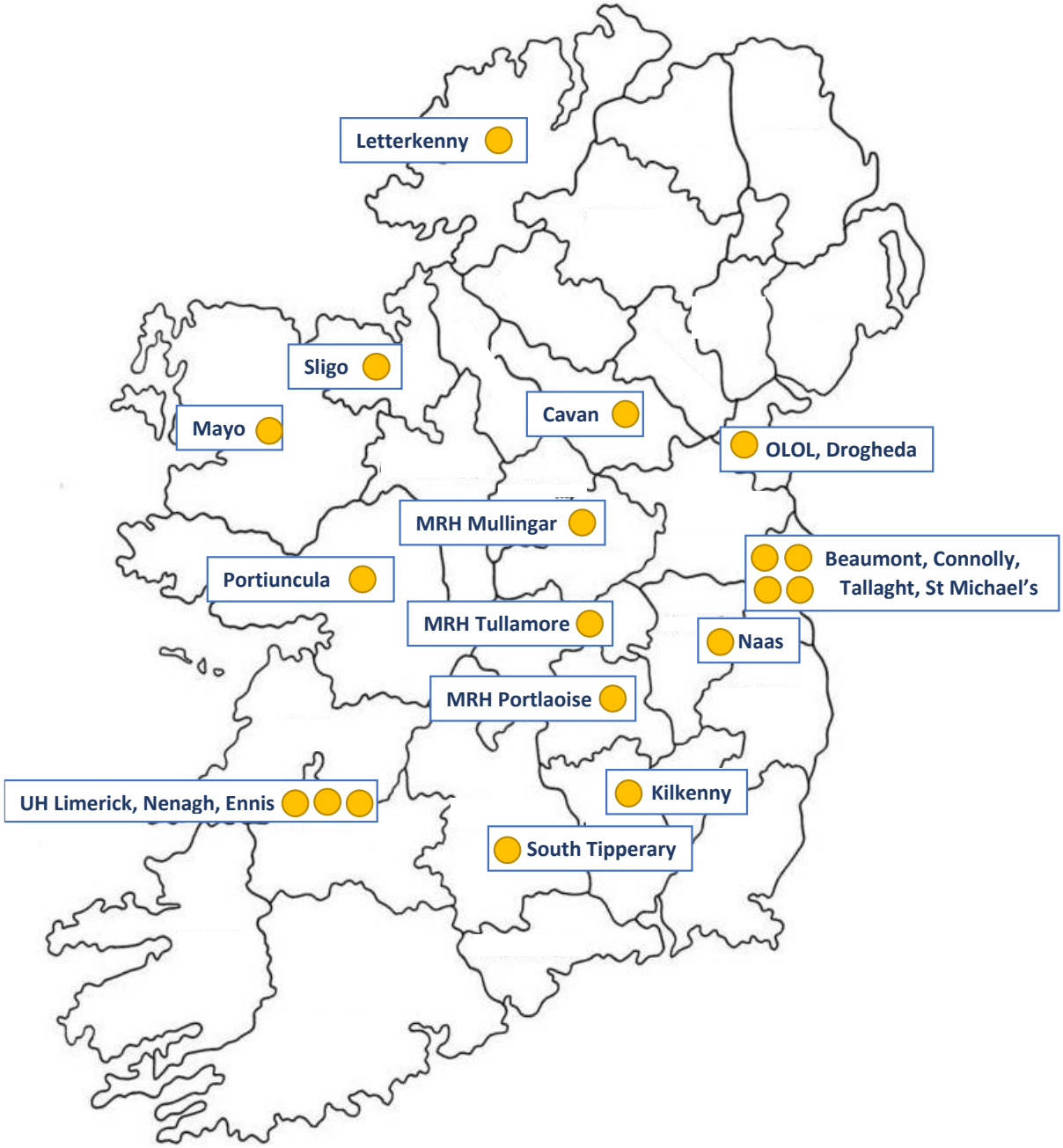
Script for follow up phone calls

➔ Must include the following questions to ensure standardised care and allow for patients' self-assessment of clinical state

- Do you feel confident to manage at home?
- Do you have all the inhalers that you need?
- Do you feel that the inhalers are helping you?
- What, if anything, is worrying you about your COPD?

Note: any indications for concern during the follow up phone call should result in an action advisory for the patient

Appendix 2 – Map of COPD Collaborative Teams, Ireland



Appendix 3 – IHI Collaborative Assessment Scale - Customised

Assessment/description	Definition
0.5 - Intent to participate	• Team has signed up to participate in the pilot
1.0 - Forming the team	• Team has been formed • Aim has been discussed • Information gathering & baseline measurement begun
1.5 - Planning for the project has begun	• Team is meeting regularly (discussion) • Target population identified (as reflected in aim) • Team's aim has been posted (storyboard) • Measures selected by the team are aligned with the aim
2.0 - Activity but no changes	• Project plan has been posted • Process goals are included in the plan • Team actively engaged in preliminary tasks such as development of tools, education, assessment, information gathering • Changes planned by not yet tested
2.5 - Changes tested but no improvement	• Changes are being tested in at least one driver, but no improvement in measures has been noted • Data on required measures and measures indicated in team aim are reported
3.0 - Modest improvement	• Initial test cycles have been completed and implementation begun for changes in more than one driver (if indicated in aim) • Evidence of moderate improvement in posted process measures as shown by a) 3 months of consecutive improvement or b) close the gap between baseline and goal by 50% or c) better evidence
3.5 - Improvement	• Moderate improvement in at least one outcome measures noted • Moderate improvement in at least one additional process measure continuing to improve • Testing changes in all drivers as indicated in aim • Changes implemented for half the drivers where changes are being tested
4.0 - Significant improvement	• Changes have been implemented for the target population in all drivers where changes are being tested • There is evidence of breakthrough improvement in all outcome measures mentioned in the team aim • Team has closed the gap between baseline and goal by 75% for at least half the goals mentioned in the team aim • Plans for spread beyond the target population, consistent with the team's aim, are in place for at least one implemented change
4.5 - Sustainable improvement	• Sustained improvement in most outcome measures, 75% of goals achieved, spread to a larger population has begun.
5.0 - Outstanding sustainable results	• All goals of the team's aim have been accomplished, outcome measures are at best practice levels, and spread to another patient population or area of the organisation is underway

Notes: Assessments are progressive, e.g. all elements of a 3.0 must be satisfied before considering a 4.0
Evidence for assessments must be documented in the team's storyboard reports for learning session

Appendix 4 – Robert Collins Award winning poster submission

Report from the Initial Phase of a National Improvement Collaborative for Patients Living with Chronic Obstructive Pulmonary Disease (COPD) in Ireland

Rachel MacDonell[1], John Brennan[2], Timothy McDonnell[3]

[1] QI Programme Manager RCPI, [2] QI Lead & former RCPI QI Scholar, [3] Clinical Lead National Clinical Programme COPD

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

INTRODUCTION

In early 2018, we piloted specific quality improvement interventions for COPD in two hospital sites in Ireland.

This was a co-designed initiative between the Health Service Executive Clinical Strategy and Programmes (CSP), the National Clinical Programme for COPD (NCPCOPD) and Royal College of Physicians of Ireland (RCPI).

COPD Pilot co-design & governance structure

- Health Service Executive – Project sponsor
- National Clinical Programme COPD – Project client
- Royal College of Physicians, Ireland – Programme facilitator

BACKGROUND

In Ireland, COPD is a common illness that places a significant burden on healthcare services. Data suggests that there is also significant variation in care processes and outcomes between hospital sites.

500,000	Estimated no. people with COPD in Ireland
200,000	Estimated no. people in Ireland with moderate or severe COPD
€70,813,040.00	Cost of inpatient care for COPD in Ireland, 2014
7 days	Average LOS in hospital in Ireland for COPD admission
	Highest rate of admission in OECD, 2013
	4th leading cause of death in Ireland, 2016

INTERVENTION

Consultant-led, multidisciplinary respiratory specialist teams (Specialist Nurse, Senior Physiotherapist & Non-Consultant Hospital Doctor) from two hospitals:

South Tipperary General Hospital (STGH) a smaller regional centre

St Vincent's University Hospital (SVUH) a larger tertiary referral centre.

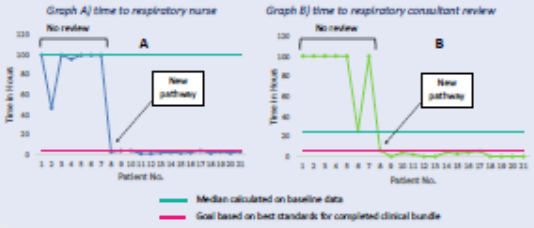
SVUH pilot team brainstorming exercise

RESULTS

South Tipperary General Hospital

Global aim	New emergency access pathway for COPD patients presenting with an acute exacerbation to the emergency department (ED)
Intervention	'Direct from triage' specialist review process
Quality drivers	Decrease patient wait-times for initial review, direct access to specialist care, streamline COPD patient flow

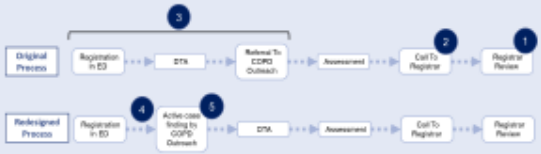
Graph A) time to respiratory nurse — *Graph B) time to respiratory consultant review*



St Vincent's University Hospital

Global aim	to improve the patient journey for Acute Exacerbations of COPD
Intervention	every patient admitted with COPD to be reviewed by a medical respiratory specialist within 24 hours of the Decision to Admit (DTA)
Quality drivers	standardise COPD pathway, increase access to respiratory specialist input for COPD patients admitted under other specialties, relieve ED 'bottleneck'

System redesign



PDSA testing

1. Aim to review 100% COPD patients within 24 hours of decision to admit
2. PDSA testing of new direct call to Respiratory Registrar
3. Process map review shows 'missed' patients
4. PDSA testing of improved patient tracking
5. Revised aim to detect and review 100% COPD patients within 24 hours of admission
6. Process steps redesign embedded

CONCLUSIONS & NEXT STEPS

- Patients with COPD Exacerbation experienced improvements in care including:
  - Admission avoidance
  - Reduced wait time in ED
  - More timely access to respiratory specialist team
  - Contact with respiratory specialist in case of concern at home
- Based on the results of this pilot project, a National COPD Improvement Collaborative was launched in September 2018

ACKNOWLEDGEMENTS

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#COPDCollab

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