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Midlands and Lancashire
Commissioning Support Unit

Smarter Spending in Population Health

Using the STAR method to identify value for money in
the Nottingham and Nottinghamshire COPD pathway

February 2023

Contents



[Executive summary](#)

Page 3



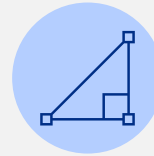
[Introduction](#)

Page 7



[Project process](#)

Page 9



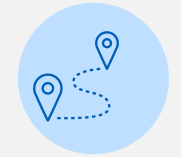
[Current pathway](#)

Page 15



[Pathway modelling](#)

Page 20



[Next steps](#)

Page 32

This is the condensed report. For more on methods and caveats, please see the full report.

Executive summary

- Overview of the process, findings and recommendations

Process




The project aimed to understand how to increase allocative efficiency of the COPD pathway in Nottinghamshire. It was facilitated through the following process:



[More details on the project process are on page 12](#)

Key priorities and findings

Identified priority areas:

-  Stopping more people from smoking and helping more people to quit
-  Improving case management in primary care
-  Improving uptake of tertiary prevention services

Key findings:

Primary care offers great value for money

Primary care interventions allow early intervention, are relatively cheap and have a broad reach.



Improving completion rates of effective interventions to get best value

Improving completion rates of pulmonary rehabilitation (currently 40%) and quit rates in smoking cessation services (59% after four weeks) would improve value.



Improving diagnosis rates improves value for money

Currently 3.6 spirometry tests need to be conducted to identify one additional case of COPD. Improving this would lead to cost savings through earlier diagnoses.



Reducing acute exacerbations is key to cost savings and improving health

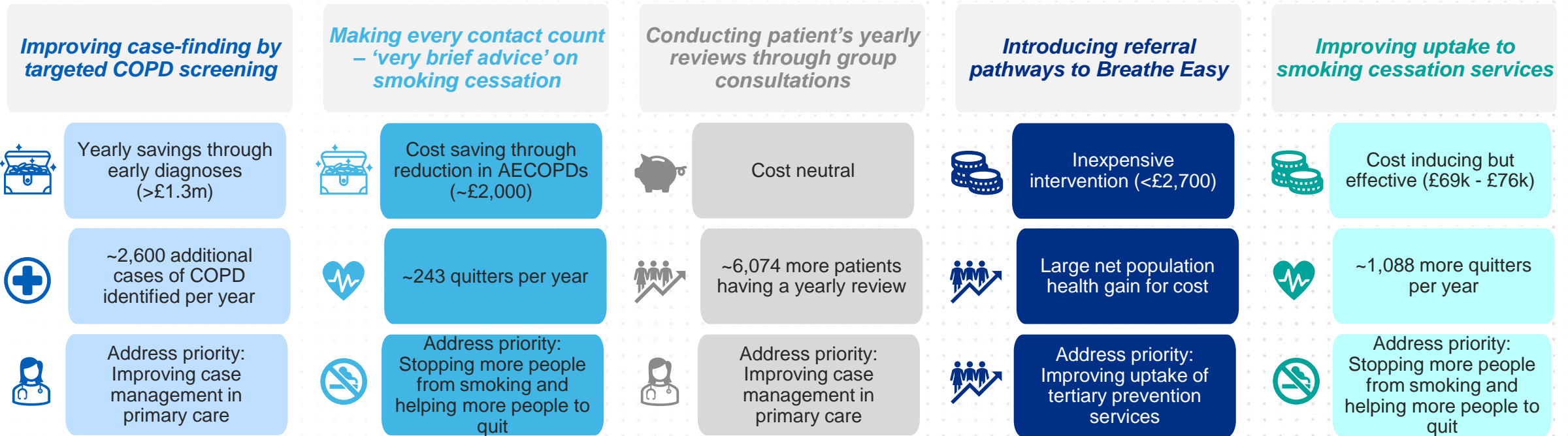
Management of exacerbations accounts for 54.2% of the total spend of the pathway; acute exacerbations increase the rate of decline in COPD cases.



[More details on the priorities and findings are on pages 14-20](#)

Recommendations

The following pathway improvements have been modelled and are recommended for implementation as they are likely to lead to the most health generation per pound spent.



If implemented, these interventions are expected to result in £408k-872k increase on costs and a 34.24 percentage point increase to population health (best case scenario).

[More details on intervention, recommendations and next steps on pages 20-38](#)



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Introduction

- Aims for COPD in Nottingham and Nottinghamshire

Aims for the COPD population in Nottingham and Nottinghamshire

- Nottingham and Nottinghamshire's respiratory steering group, in collaboration with the Health Economics Unit (HEU) and partners, piloted the STAR approach to assess the [allocative efficiency](#) of their COPD pathway.
- This work builds upon that of the Nottingham and Nottinghamshire ICB's population health management programme's respiratory deep dive, which built an understanding of the population needs and pathway gaps. This piece of work identified opportunities and initiatives that can be implemented to meet these needs and gaps.
- The [Socio-Technical Allocation of Resources \(STAR\)](#) approach synthesises data from multiple sources in easy-to-interpret graphs of where value – in terms of health improvement versus costs – lies within a given pathway. This allows stakeholders, including people with COPD, across Nottingham and Nottinghamshire to build a shared understanding of the pathway and reach consensus on how to improve it.
- This summary has been put together to highlight methods, key findings and next steps. Further outputs, caveats and methodology details can be found in the full report.



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Project process

- COPD population
- STAR process
- Nottingham and Nottinghamshire priorities
- Identified initiatives

The COPD population in Nottingham and Nottinghamshire

The pyramid summarises the estimated population diagnosed, undiagnosed and at risk of developing COPD and the various interventions that make up the COPD pathway

Treatment of acute exacerbation management

- Hospital admission
- Primary care management
- Emergency Attendances
- Respiratory Assessment Unit

Case management

- Community COPD service
- Primary care
- Secondary care outpatient appointment

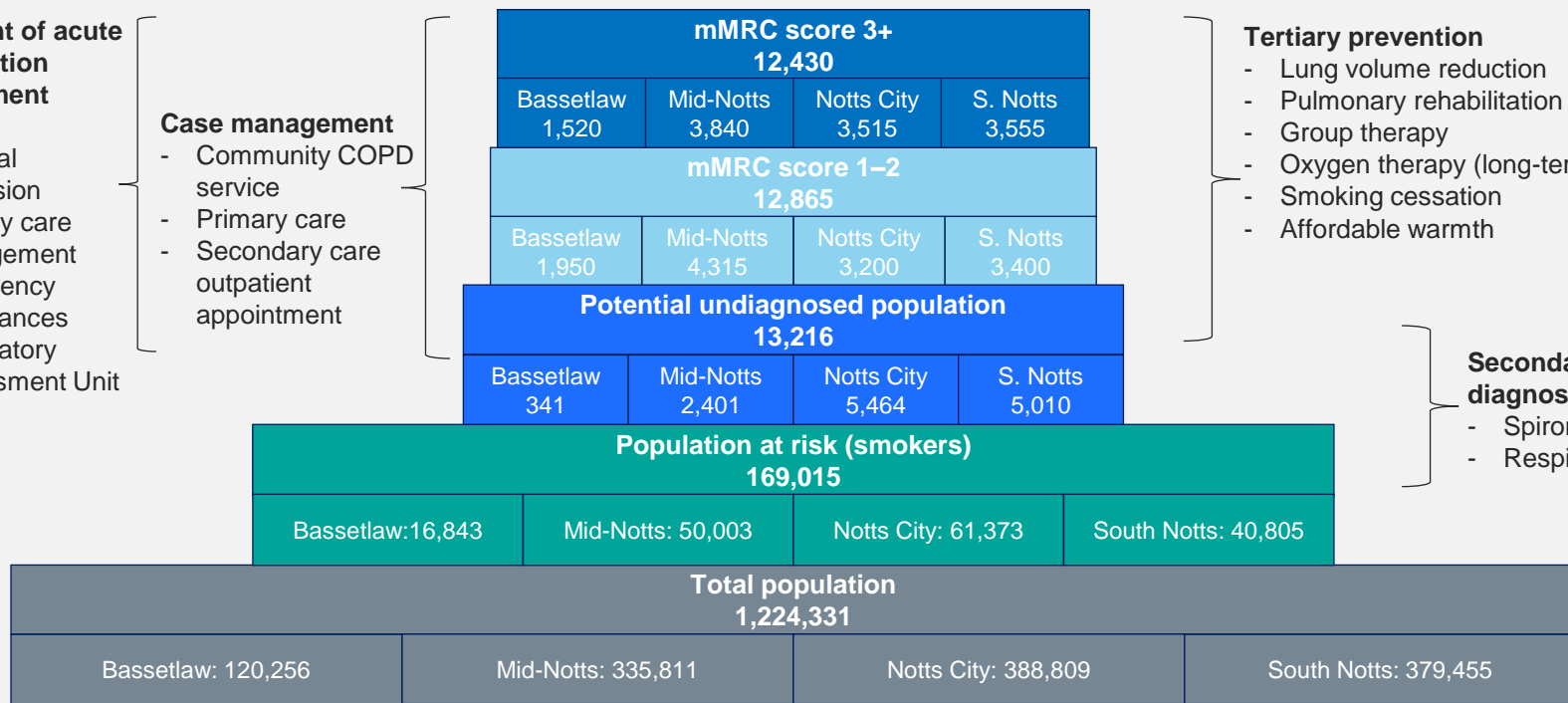
Tertiary prevention

- Lung volume reduction
- Pulmonary rehabilitation
- Group therapy
- Oxygen therapy (long-term and ambulatory)
- Smoking cessation
- Affordable warmth

Secondary prevention/ diagnosis

- Spirometry testing
- Respiratory vaccinations

Primary prevention
- Smoking cessation



There are up to ~25,295 people who are diagnosed with COPD. This is approximately 2% of the Nottingham and Nottinghamshire population.

Approximately half of those diagnosed with COPD (49%) have an mMRC score of 3+ and the remaining (51%) have an mMRC score of 1-2.

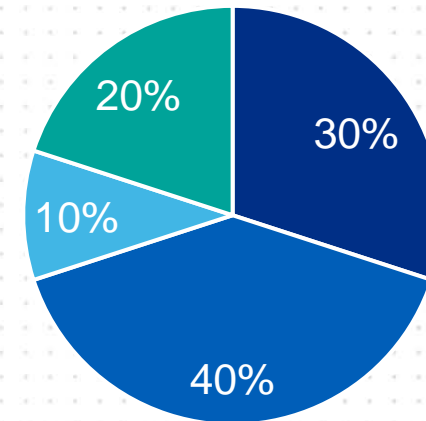
Some estimates say that the true prevalence of COPD is 3.1%, suggesting that over a third of the COPD population is undiagnosed.

14-20% of the population are smokers, putting them at risk of COPD. Data suggests smokers are more likely to live in deprived areas.

Why STAR?

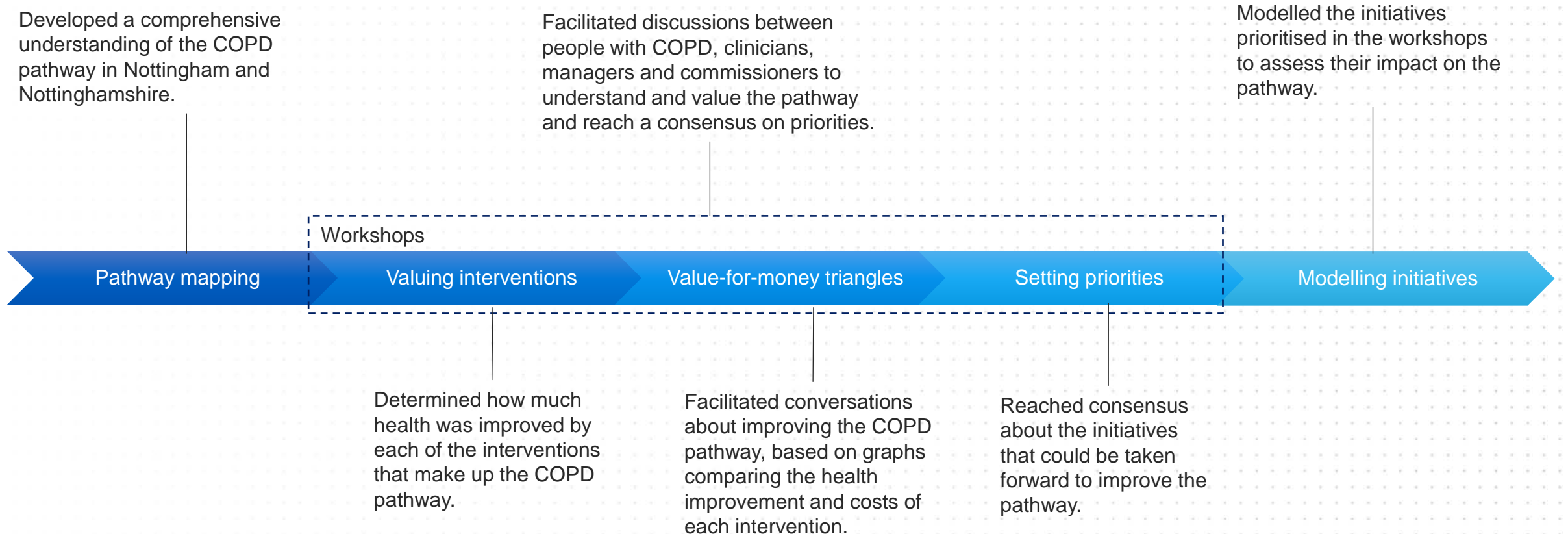
- STAR is a method that can help to determine the priorities through a technical value-for-money analysis with extensive stakeholder engagement.
- STAR provides a structured way to bring stakeholders together to think about allocating resources across the entirety of a pathway through workshops and the building of graphs.
- Clinical care accounts for ~20% of modifiable contributors to population health. STAR allows consideration of the full pathway including all modifiable health determinants.

Modifiable health determinants



- health behaviours
- social and economic factors
- physical environment
- clinical care

The STAR process



See the full report for more detail

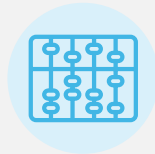
(Airoldi et al., 2014; The Health Foundation, n.d.)

Priority areas

The process identified three key areas of focus to improve the COPD pathway in Nottingham and Nottinghamshire:



Stopping more people from smoking and helping more people to quit



Improving case management in primary care



Improving uptake of tertiary prevention services

The pathway improvements identified in each priority area

As part of the process, interventions and initiatives within the three key areas were identified and prioritised.



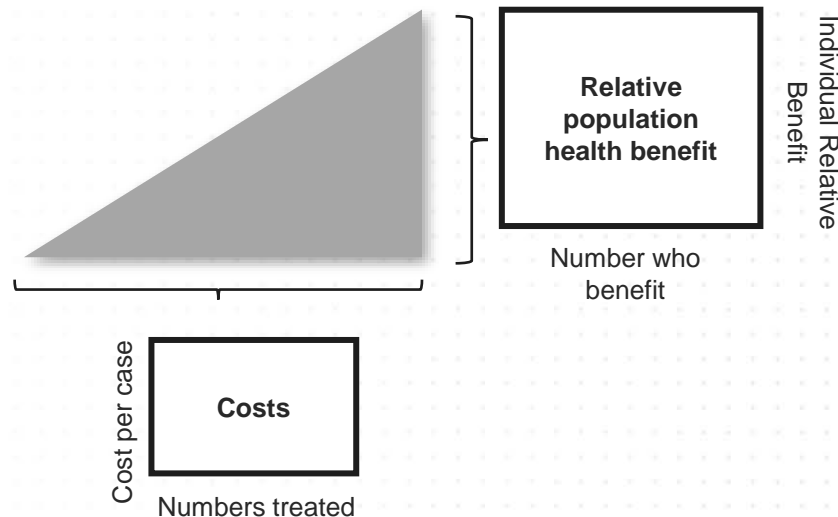
Current pathway

- Interpreting the value-for-money triangles
- The Nottingham and Nottinghamshire COPD value-for-money triangles

Interpreting the value-for-money triangles: An intervention

What does a value-for-money triangle represent?

- Each triangle represents an intervention or package of care.
- The steeper the slope, the higher the value for money.
- A triangle has cost across the x-axis and population health gain across the y-axis.



What does the slope of the triangle mean?

The gradient of the slope is due to the costs (numbers who are treated x the individual cost) and the benefit (numbers who benefit x the individual benefit):

Lower value-for-money triangle

This means that this intervention is *relatively* lower value for money compared to other interventions.

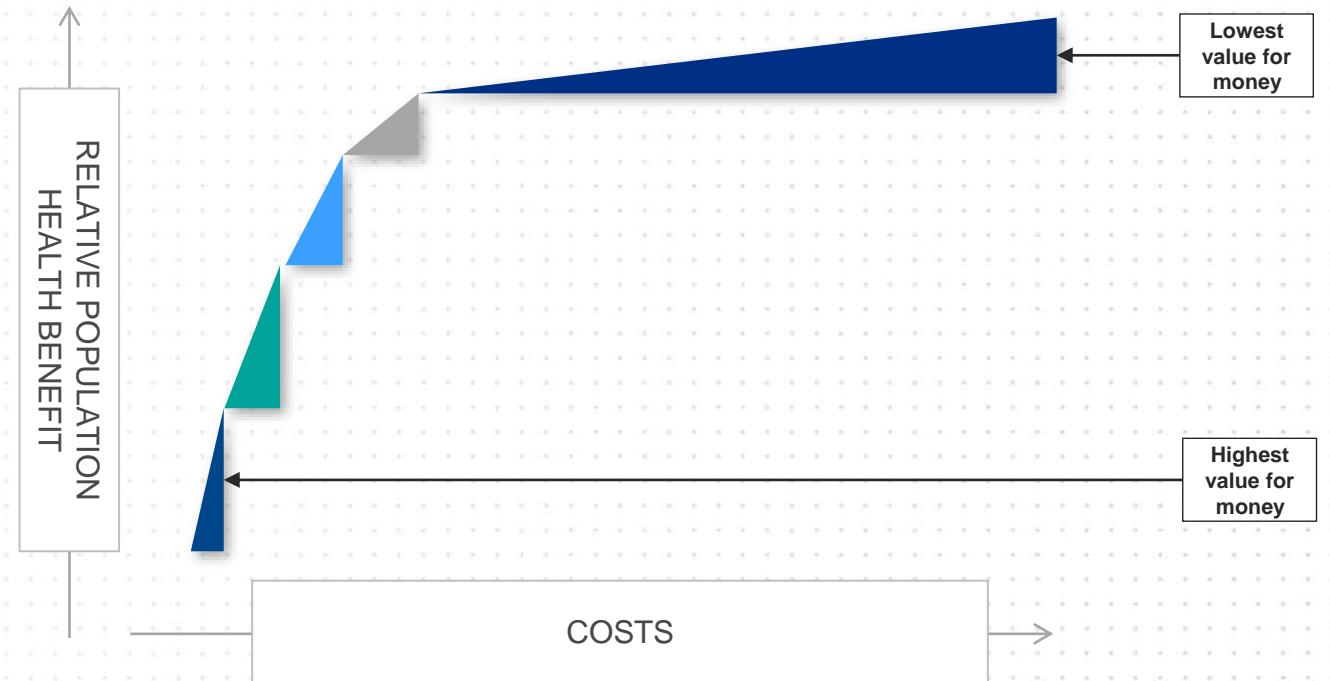
Higher value-for money triangle

This means that this intervention is *relatively* higher value for money compared to other interventions.

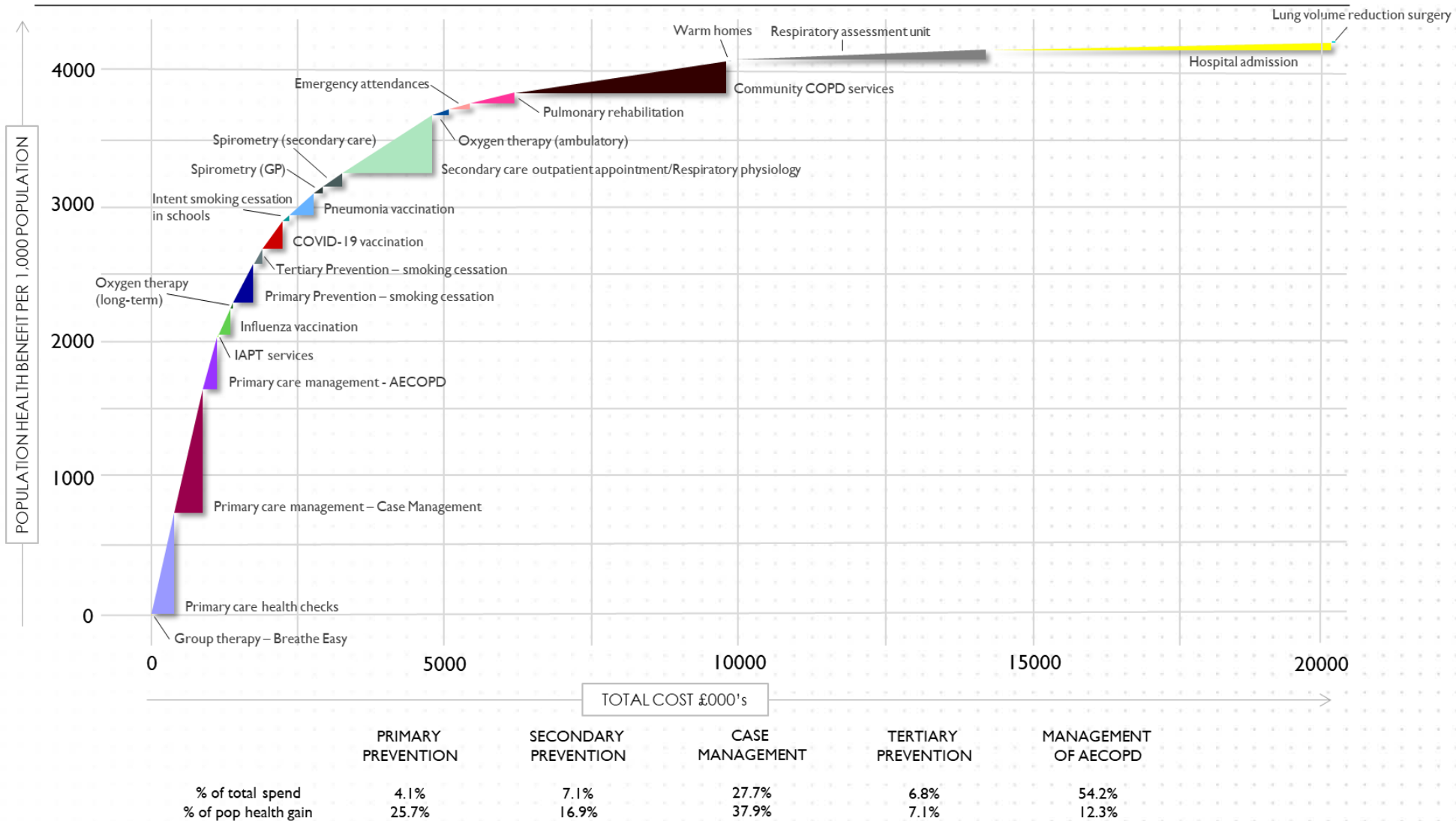
Note: higher value-for-money triangles are not necessarily “good” and lower value-for-money triangles are not necessarily “bad”.

Interpreting the value-for-money triangles: The pathway

- This is an easy-to-interpret graph of where the value lies in a pathway.
- The triangles (interventions) are ordered by their value for money (highest to lowest) to create a view of the entire pathway.
- Costs, benefits, numbers who benefit and numbers treated were sourced from data, literature and workshops.
- Workshop discussions were used to help the group work together to gain consensus, with the support of facilitators, evidence and data.



VALUE OF COPD CARE PATHWAY IN NOTTINGHAMSHIRE



This shows the value-for-money triangles of the current COPD pathway.

The aim of identifying initiatives is to alter individual interventions to ultimately shift the pathway:



Upward
Increasing population health benefit



Left
Reducing costs (where appropriate)

Key messages on the efficiency frontier

Opportunities to maximise population health gain through primary care-based activities

Primary care-based activities are the main driver of the value of the COPD pathway. This is because things such as primary care case management and vaccinations are relatively cheap per person and can reach a large segment of the population. Similarly, Breathe Easy offers high value for money due to their relatively low cost per person and high impact on the numbers who benefit. Breathe Easy classes are currently small parts of the pathway, but have potential to have an impact on population health gain if expanded.

Increasing completion rates for interventions with high health benefit would improve the value of the pathway

Activities that were given high relative individual health benefit scores, such as pulmonary rehabilitation (90) and smoking cessation (100 – primary prevention, 98 – tertiary prevention) appear to offer lower value for money. In Nottingham and Nottinghamshire, 40% of those referred for pulmonary rehabilitation complete the course, while 59% of people quit smoking as a result of primary smoking cessation, 58% quit as a result of tertiary prevention smoking cessation. Improving the completion rates for these services would make them better value for money.

Improving the diagnosis rate of spirometry would improve the value of testing

Spirometry testing was given an individual relative health benefit score of 95, yet appears to offer low value for money because the diagnosis rate (percentage of tests that lead to a diagnosis of COPD) is estimated to be only 27.6%. Improving this rate would improve the efficiency of spirometry services.

Avoiding exacerbations represents a large cost-saving opportunity

The management of exacerbations (those managed in primary care, the respiratory assessment unit, emergency attendances and hospital admissions) accounts for 54.2% of the total spend of the pathway; acute exacerbations also increase the rate of decline in individual cases of COPD. Avoiding exacerbations represents an opportunity to improve health as well as reducing costs.



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Pathway modelling

- Initiatives and their modelled impacts
- Next steps and recommendations

Pathway improvements identified to improve the pathway

The interventions and initiatives identified in the workshops were:

1. Expanding the INTENT smoking prevention programme in schools
2. Making every contact count
3. Improving access to smoking cessation services
4. Improving case-finding by targeted COPD screening
5. Group consultations
6. Expanding affordable warmth schemes
7. Expanding access to pulmonary rehabilitation
8. Offering a post-PR exercise course
9. Introducing a referral pathway to Breathe Easy groups.

The potential impact on the rest of the pathway was assessed and modelled following the workshops. The following section outlines the findings.

Assessing the impact of pathway improvements on the COPD pathway

Aim

- To demonstrate the potential impact of the interventions on the COPD pathway to support conversations on priority-setting.

Methods

- Discussion in the workshops was used to build out what the scenarios could look like. This was confirmed and refined through conversations following the workshops. This was combined with assumptions from the literature (identified through an umbrella literature review) looking at how an intervention may change healthcare resource use.

Limitations

- Only costs of provision have been included. Programme and capital spend that would be required to set up the interventions have not been included.
- Further work would need to be done to adapt these scenarios into business cases.

More information available in the full report.

Expanding smoking prevention in schools

Intervention

More could be done to prevent young people from smoking and vaping. NICE recommends school-based interventions as one way of achieving this (NICE, 2023). One such programme is the [INTENT smoking prevention programme](#). This programme targets teenagers who have never smoked and helps them to create ‘personal plans’ about how to refuse an offer of cigarettes. Here we have modelled what it would look like assuming all 48 secondary schools in the county are covered.

Expected change

Smoking is one of the largest risk factors for developing COPD (NICE, n.d.). The INTENT programme is expected to lead to fewer pupils taking up smoking and, as a result, less people developing COPD. It has been tested in three studies, including a cluster randomised controlled trial, and has shown positive effects on preventing pupils from smoking in schools (Conner et al., 2019).

Overall, the improvement is not expected to be cost saving and any savings due to the cases of COPD avoided would only be realised in the long term as people do not tend to develop COPD until they are older. (Safiri et al., 2022).

Metric	Total	Interpretation
Total additional pathway costs	£203,758.40	The number of COPD cases avoided per year (at a cost of £523.27) is not expected to offset the costs of the pathway improvement.
Additional cost/ additional population health ratio	1.45	This improvement costs £1.45 for every additional unit of population health gain it generates.
Cost ratio	0.29	This improvement is not cost saving. It would save £0.29 due to cases of COPD avoided for every £1 spent.

The cost/additional population health ratio for this improvement depends on the expected cost given to a case of COPD per year. This figure is subject to a sensitivity analysis in the full report.

Making every contact count

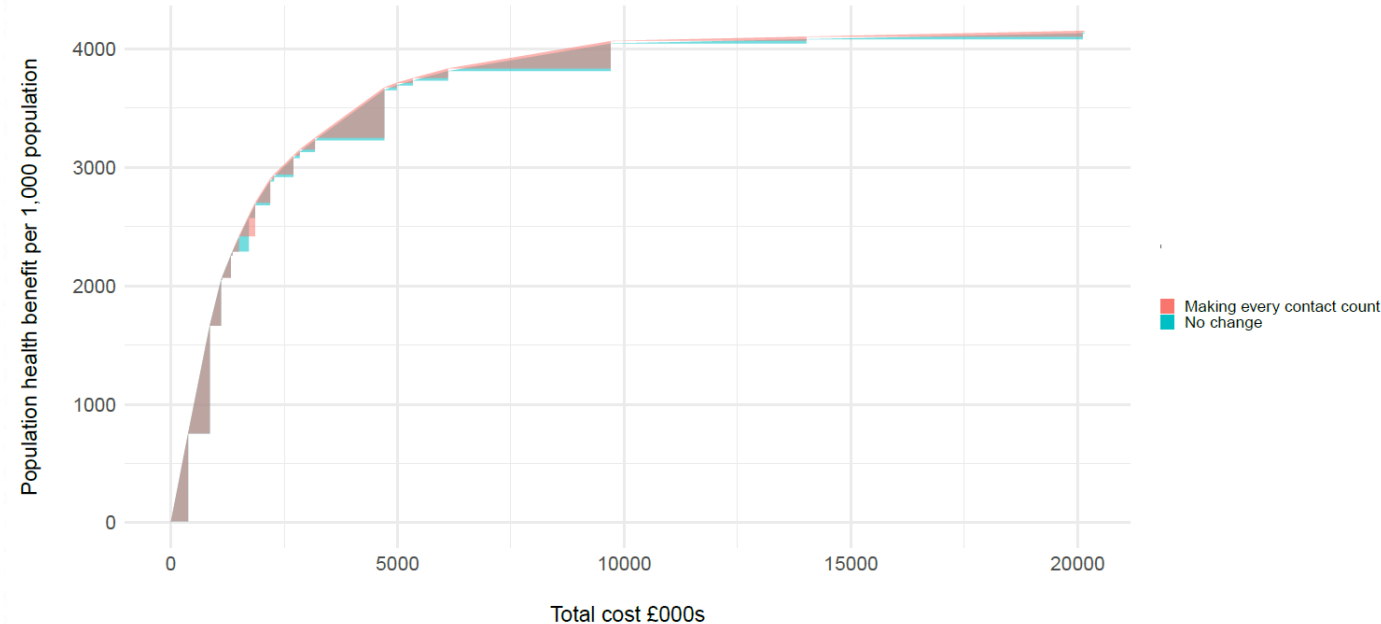
Intervention

Here we look at making every contact count by staff in general practice being mandated to offer ‘very brief advice’ (VBA) to people with COPD as part of their yearly reviews.

Expected change

VBA can increase the likelihood that a smoker will go on to engage with a smoking cessation service and successfully quit smoking (Stead et al., 2008). Stopping people with COPD from smoking can impact the rate of exacerbations and hospital admissions for the individuals involved (Au et al., 2009; Godtfredsen, 2002).

It is expected that this intervention would lead to an additional 243 people with COPD quitting smoking per year. This would lead to cost savings due to the reduction in the number of hospital admissions and acute exacerbations that stopping people smoking is expected to avoid.



Metric	Total	Interpretation
Total additional pathway costs	-£2,488.77	This pathway improvement is cost saving due to the expected reduction in the number of hospital admissions and acute exacerbations.
Additional cost/ additional population health ratio	-0.10	This pathway improvement will save £0.10 for every additional unit of population health gain it generates.
Cost ratio	1.20	This intervention is cost saving. It will save £1.20 elsewhere in the COPD pathway for every £1 spent.

Improving access to smoking cessation services

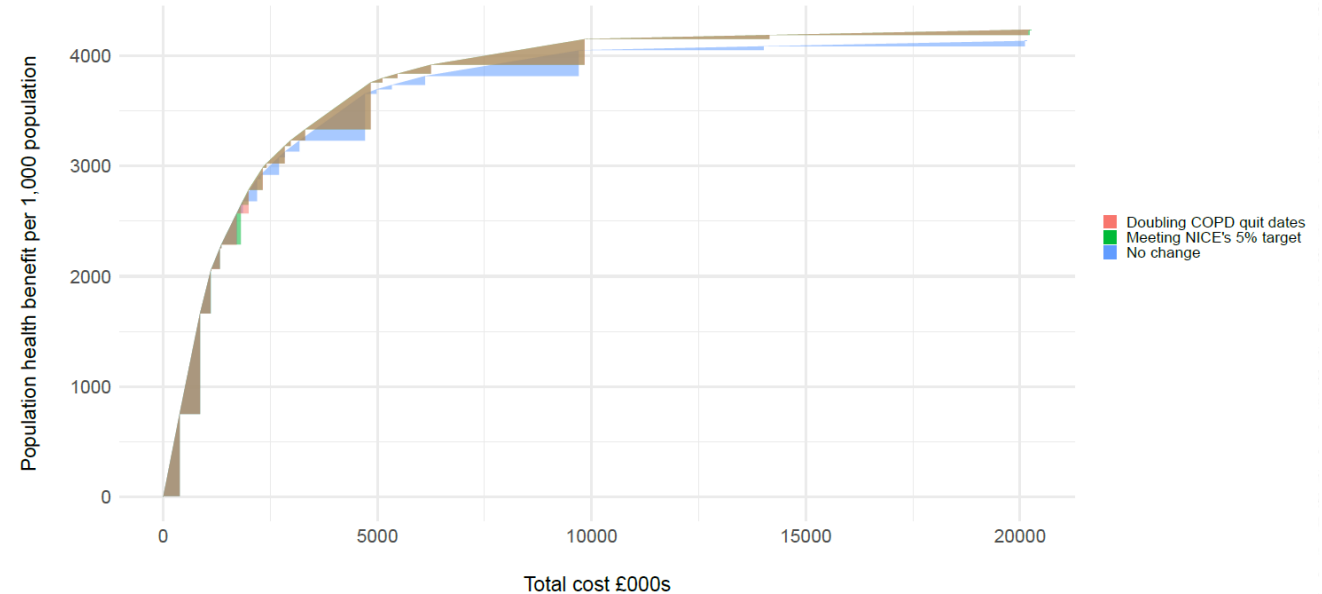
Intervention

If more people were to engage with smoking cessation services in the county, it is likely that more people would quit smoking. Here we look at two scenarios:

- Increasing uptake to meet the 5% target set by NICE.
- Doubling the number of people with COPD who set quit dates.

Expected change

Stopping people with COPD from smoking through smoking cessation programmes can impact the rate of exacerbations for people with COPD and reduce the risk of people developing COPD in the first place (Au et al., 2009; Godtfredsen, 2002). Neither scenario is estimated to be cost saving for the COPD pathway



Metric	<i>Increasing uptake to meet the 5% target set by NICE</i>		<i>Doubling the number of people with COPD who set quit dates</i>	
	Total	Interpretation	Total	Interpretation
Total additional pathway costs	£69,018.14	This scenario is not expected to be cost saving. The number of cases of COPD avoided and the reduction in hospital admissions and acute exacerbations it avoids would not offset the cost of the additional smoking cessation.	£76,402.73	This scenario is not expected to be cost saving. The reduction in hospital admissions and acute exacerbations it avoids would not offset the cost of the additional smoking cessation.
Additional cost/ additional population health ratio	0.67	This scenario would cost £0.67 for every additional unit of population health gain it generates.	0.72	This scenario would cost £0.72 for every additional unit of population health gain it generates.
Cost ratio	0.47	This scenario is not cost saving. It saves £0.47 elsewhere in the pathway for every additional unit of population health it generates.	0.45	This scenario is not cost saving. It saves £0.45 elsewhere in the pathway for every additional unit of population health it generates.

Improving case-finding by targeted COPD screening

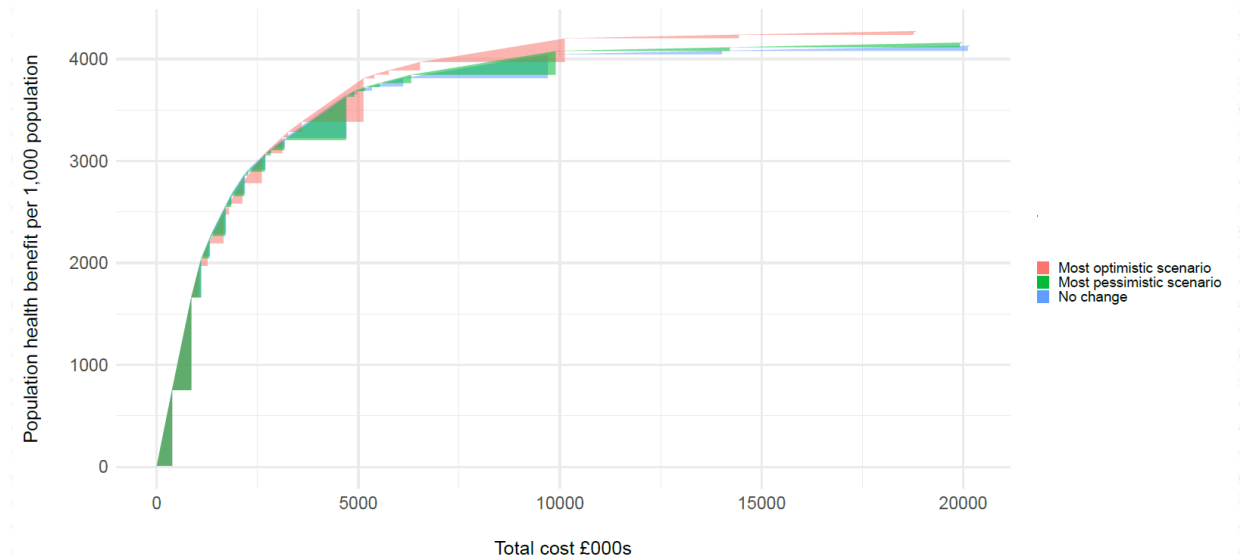
Intervention

According to Wright and colleagues (2015), targeted case detection using clinically validated questionnaires (e.g., CDQ) can identify one patient with moderate severity COPD (GOLD-2) for every two screened (equivalent to 50%).

In this pathway improvement, we model the potential impact of applying the three-stage process for improving case finding: 1) identify high-risk smokers via E-Healthscope; 2) ask them to fill in CDQ via routine primary care visits once every five years; 3) have GPs refer those with a CDQ score of 16.5 and above for diagnostic spirometry testing, assuming the tests taking place in primary care and are additional to the tests currently being carried out.

Expected change

Earlier diagnosis of COPD allows opportunities for early interventions, such as programs for smoking cessation and pharmacotherapy to reduce symptoms, and the risk of exacerbations and hospitalisations (Decramer et al., 2011; Kostikas et al., 2020). A higher diagnosis rate will save NHS resources used for spirometry testing as well as reducing the logistic burden of healthy and low-risk patients who might otherwise be administered the testing unnecessarily.



Metric	Most optimistic scenario		Most pessimistic scenario	
	Total	Interpretation	Total	Interpretation
Total additional pathway costs	-£1,344,055	This scenario is cost saving due to the number of hospital admissions (617) expected to be avoided by earlier diagnoses.	-£196,521.37	This scenario is cost saving. It is expected to save -£196,521.37.
Additional cost/ additional population health ratio	-5.28	This scenario is cost saving and health generating. It would save £5.28 for every additional unit of population health gain it generates.	-3.48	This scenario is cost saving and health generating. It would save £3.48 for every additional unit of population health gain it generates.
Cost ratio	3.80	This scenario is cost saving. It would save £3.80 for every £1 spent elsewhere on the COPD pathway.	1.94	This scenario is cost saving. It would save £1.94 for every £1 spent elsewhere on the COPD pathway.

Group consultations

Intervention

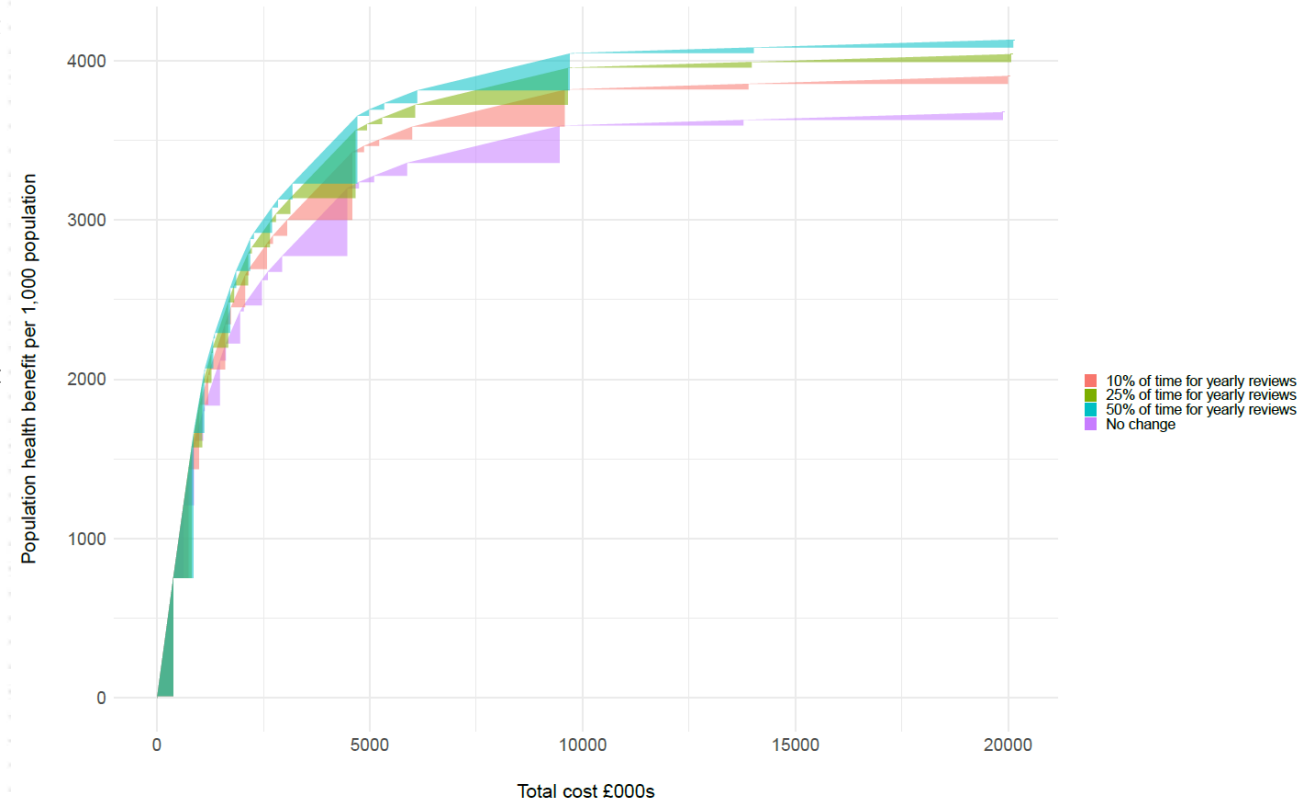
Introduction of group consultation follow up for yearly reviews of patients.

Group consultations involve seeing multiple patients in one session. This contrasts with the current reviews which normally take around 15 minutes. Such appointments could improve case management by allowing clinicians more time to give advice and allowing peer learning. The correct number of yearly reviews that should be conducted as group consultations is not known. Therefore, we model three different scenarios here: 10%, 25% and 50% of time spent on yearly reviews devoted to group consultation.

Expected change

Group consultations could improve the quality of yearly reviews due to opportunities for shared learning and could potentially increase the number of people who can be seen in the same amount of time. Introducing group consultations would improve the population health gain of the pathway more than any other pathway improvement, mainly by increasing the number of people reviewed. Introducing group consultations is estimated to be almost cost-neutral and health-generating, no matter what percentage of the time spent on yearly reviews is devoted to them.

Metric	Total	Interpretation
Total additional pathway costs		This pathway improvement is essentially cost neutral no matter which scenario is taken forward.
10% of yearly reviews	£32.15	
25% of yearly reviews	£30.37	
50% of yearly reviews	£60.74	
Additional cost/additional population health ratio	0.00	The pathway improvement is essentially cost-neutral and health-generating in all scenarios.
Cost ratio	1.00	This pathway improvement is essentially cost-neutral in all scenarios.



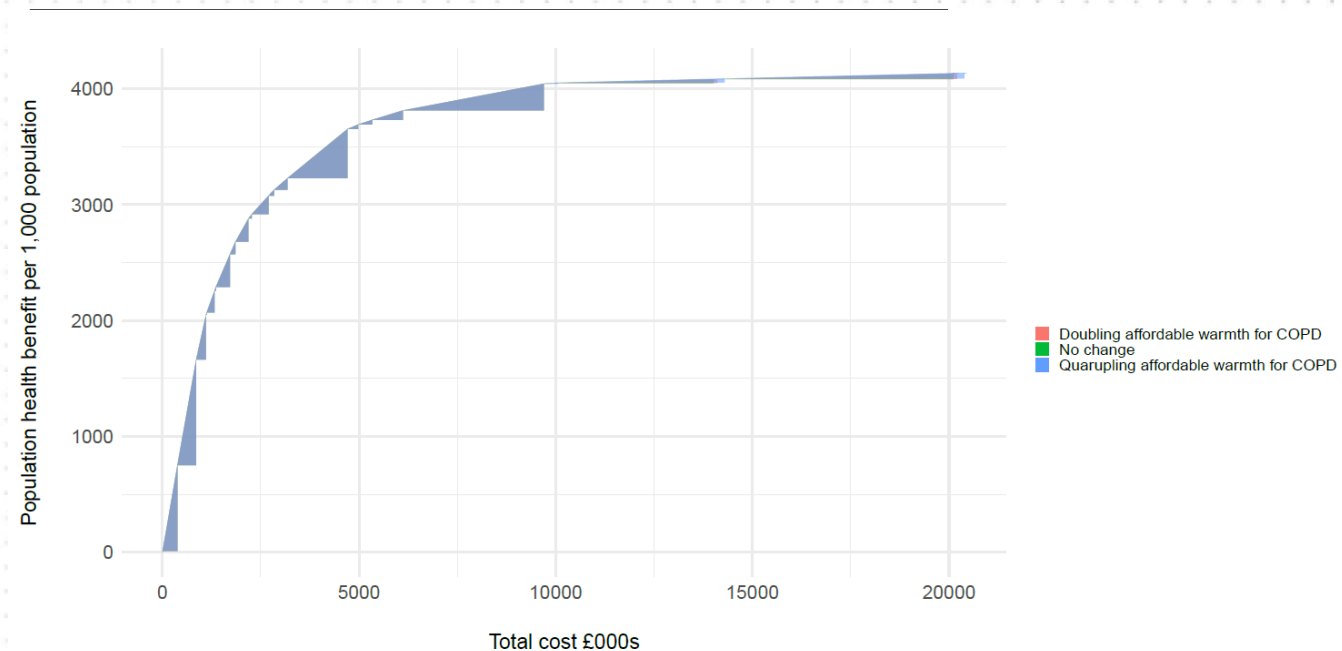
Expanding affordable warmth schemes

Intervention

Expanding the budget available for affordable warmth schemes could help to meet the increased demand for affordable warmth schemes brought about by the cost of living crisis.

Expected change

No statistically significant pathway effects for warm home schemes were found in the literature. One randomised controlled trial of warm home schemes conducted in Aberdeen suggested a small, non-statistically significant, decrease in the number of hospital admissions for people living with COPD who were given home energy efficiency improvements. However, the study also noted that patients may be unlikely to take up the schemes (Osman et al., 2010). For affordable warmth schemes to be cost neutral, they would have to avoid one hospital admission for every 1.2 people given support.



Metric	Total	Interpretation
Total additional pathway costs		There is significant cost implications associated with expanding affordable warmth schemes. This is because there are no expected pathway savings from affordable warmth schemes, no matter which scenario is taken forward.
Doubling the number of people with COPD supporting	£92,467.83	
Quadrupling the number of people given support	£277,403.49	
Additional cost/additional population health ratio	36.48	It is expected that this pathway improvement would cost £36.48 for every additional unit of population health gain in both scenarios.
Cost ratio	N/A	There are no expected cost savings due to this improvement in both scenarios.

Expanding access to pulmonary rehabilitation

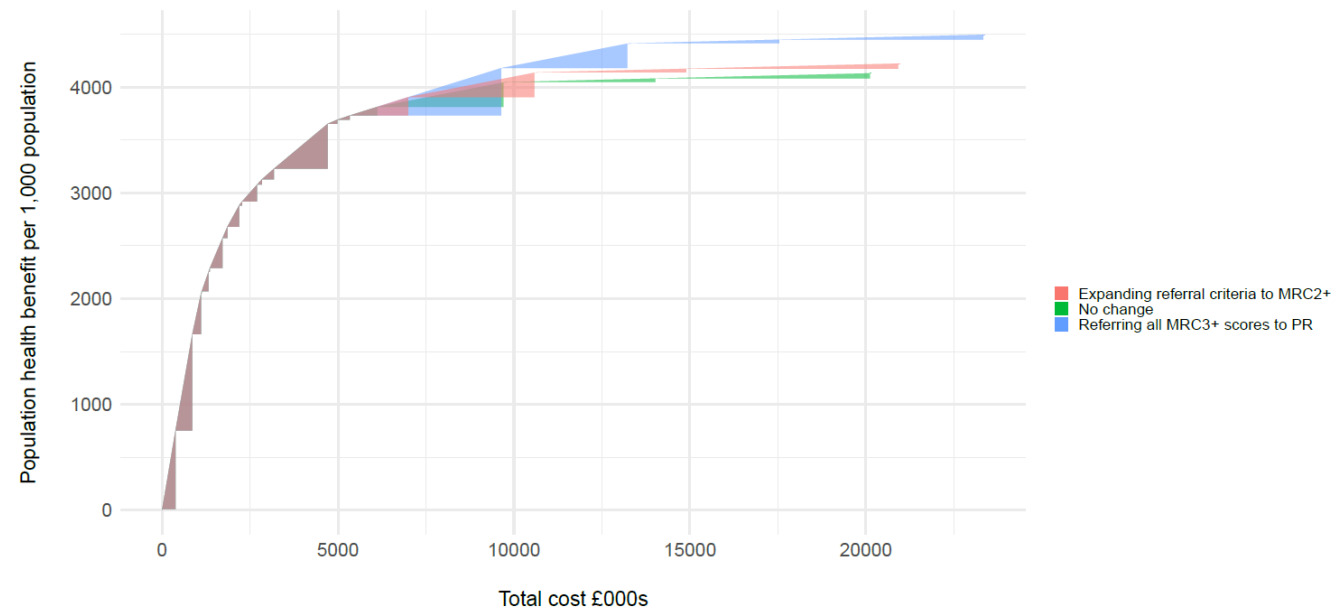
Intervention

Here we model two different scenarios for how the number of people undertaking PR could be increased:

- Referring all people with an MRC score of 3+ to PR services.
- Expanding referral criteria so people with an MRC score of 2+ are eligible.

Expected change

A Cochrane review suggested that PR had a positive effect on hospital readmission rates compared with usual post-exacerbation care after nine months (OR 0.44, 95% CI 0.21–0.91) (Puhan et al., 2016). Both scenarios are expected to have a large cost implication associated with them and relatively meagre increases in population health gain. This is because only 40% of the people who have accepted referrals to PR services are expected to complete the course and therefore benefit from it. Increasing the number of people who complete PR courses is the key to making the intervention more cost-effective.



Metric	Total	Interpretation
Total additional pathway costs		There are substantial cost implications in both scenarios.
Referring all people with an MRC score of 3+	£3,222,845.75	
Expanding referral criteria to MRC score of 2+	£806,954.70	
Additional cost/additional population health ratio	8.79	This scenario would cost £8.79 for every additional unit of population health it generates in both scenarios.
Cost ratio	0.09	This scenario is not cost saving. It would save £0.09 due to a reduction in hospital admissions for every £1 spent in both scenarios.

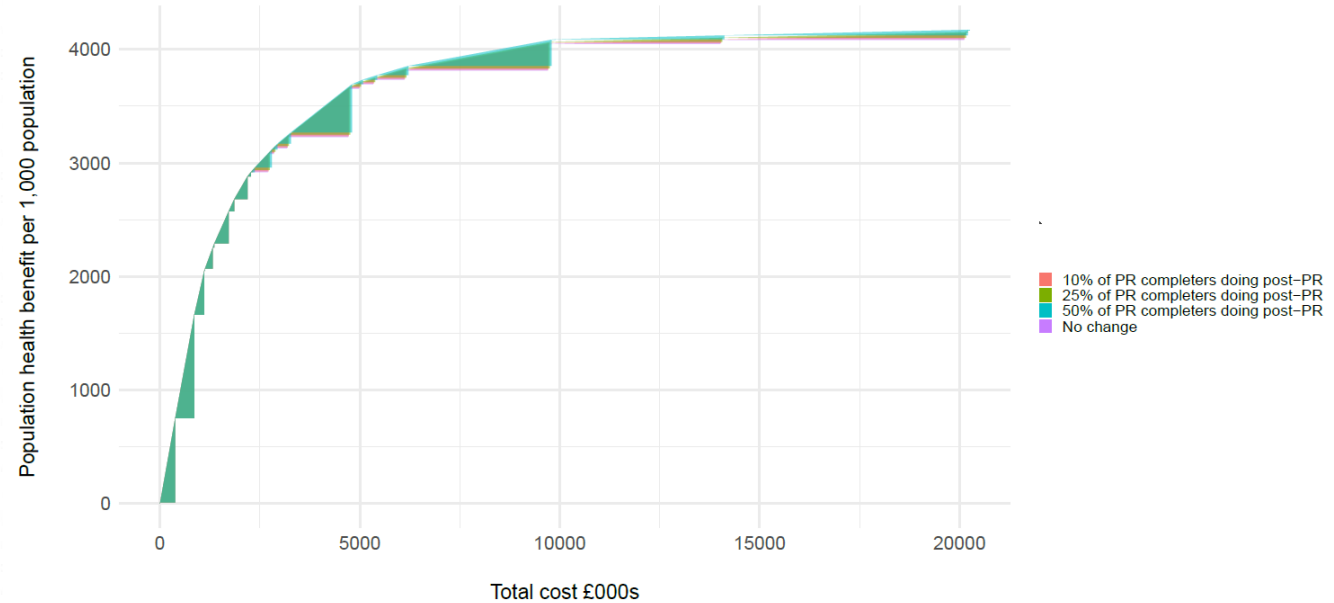
Post pulmonary rehabilitation exercise courses

Intervention

Sustained exercise following PR may lead to better health outcomes. This could be achieved by offering a post-PR exercise course outcomes following PR. However, there were no papers identified which suggested that exercise programmes following PR would impact other areas of the pathway.

Expected change

As there are no cost savings expected elsewhere in the pathway, it is likely to be cost incurring. The population health gain that this improvement would generate is also uncertain. It depends on how likely people are to engage with the exercise classes and this number is likely to be modest. Even if 50% of people completing PR attend the courses, it would only benefit 451 people. It is likely that participation would also drop off over time.



Metric	Total	Interpretation
Total additional pathway costs		This intervention is relatively cheap but there are no estimated cost savings elsewhere in the pathway in all scenarios.
10% of people who complete PR	£19,800	
25% of people who complete PR	£49,500	
50% of people who complete PR	£99,220	
Additional cost/additional population health ratio	2.44	This pathway improvement would cost £2.44 for every additional unit of population health gain it generates in all scenarios.
Cost ratio	N/A	There are no expected cost savings due to this improvement in all scenarios.

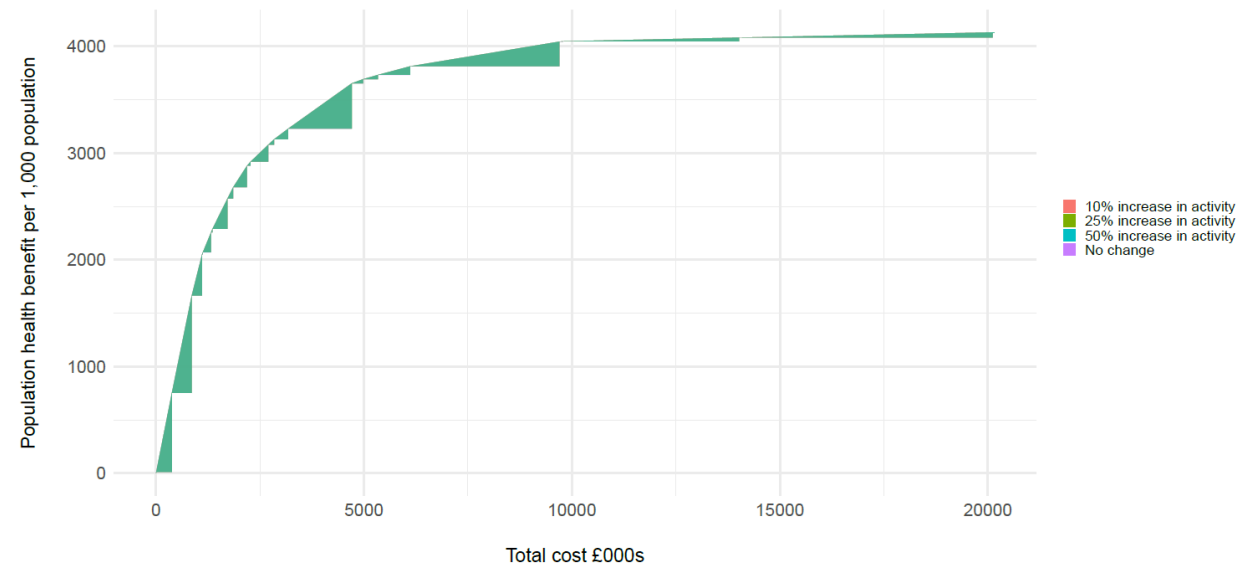
Referral pathway to Breathe Easy

Intervention

Breathe Easy (part of Asthma and Lung UK) offers a wide variety of support groups in the county. These include singing groups, peer support groups and other groups aimed at supporting patients with COPD. However these groups are not well known. Here we look at Breathe Easy groups becoming part of the referral pathway being offered to patients where appropriate. This would expand the number of people accessing this service.

Expected change

No statistically significant changes in healthcare resource used elsewhere in the COPD pathway, due to peer support groups, were identified (Aboumatar et al., 2022). Breathe Easy groups are relatively cheap to run compared to the other improvements suggested for the additional population health gain they are expected to generate. As the total number of people it could reach is modest (even a 50% increase in uptake would only lead to 88 extra people attending the Breathe Easy groups) the overall effect on the pathway is likely to be minimal.



Metric	Total	Interpretation
Total additional pathway costs		Although there is no expected cost savings elsewhere in the pathway due to this improvement, it is relatively cheap no matter which scenario is taken forward.
10% increase in uptake	£558.54	
25% increase in uptake	£1,365.32	
50% increase in uptake	£2,730.64	
Additional cost/additional population health ratio	0.50	This pathway improvement would cost £0.50 for every additional unit of population health gain it generates in all scenarios.
Cost ratio	N/A	There are no expected cost savings due to this improvement in all scenarios.



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Next steps

- Prioritising identified initiatives
- Next steps and recommendations for Nottingham and Nottinghamshire

Three ways in which the initiatives can be prioritised

Below are three approaches to priority-setting. The HEU recommends that priority-setting of the pathway improvements is done based on the cost/population health ratio (1). Using this method will ensure the most efficient allocation of resources based on cost per unit of population health gain, therefore improving the value for money of the pathway:

- 1. Ranking the interventions by a net cost/health ratio.** Prioritising in this way will help to ensure that the interventions taken forward will produce the most health within the given available budget. The lower the ratio, the better, with a negative ratio representing interventions which are both cost saving and health generating.
- 2. Ranking the interventions by the ratio of the cost of the intervention to the cost savings elsewhere in the system.** Prioritising in this way can determine if the intervention will offset costs elsewhere in the system. A number between 0 and 1 represents cost savings elsewhere in the system.
- 3. Looking at the net cost of the intervention.** Similar to looking at the cost ratio, this method can determine whether the intervention is likely to save money overall or incur additional costs.

Ranking scores

In the table below, the initiatives have been ranked in order of their cost/health ratio. Using this method will ensure the most efficient allocation of resources based on cost per unit of population health gain:

Ranking	Pathway improvement (scenario)	Cost/population health ratio
1	Improving case-finding by targeted COPD screening (most optimistic scenario)	-5.28
2	Improving case-finding by targeted COPD screening (most pessimistic scenario)	-3.48
3	Making every contact count	-0.10
4	Conducting patient's yearly reviews through group consultations	0.00
5	Introducing a referral pathway to Breathe Easy groups	0.50
6	Improving uptake to smoking cessation services (increasing uptake to meet the 5% target set by NICE)	0.67
7	Improving uptake to smoking cessation services (doubling the number of people with COPD who set quit dates)	0.72
8	Expanding the INTENT smoking prevention programme in schools	1.45
9	Offering a post-PR exercise course	2.44
10	Expanding access to pulmonary rehabilitation	8.79
11	Expanding affordable warmth schemes	36.48

Recommendations

Based on the results presented in the previous slides, it is recommended that Nottingham and Nottinghamshire ICS invest in the pathway improvements that have the best cost/population health ratio, as this will ensure the investment leads to the most health generated per pound spent. It is recommended that the ICS focus on the following interventions:

- **Improving case-finding by targeted COPD screening.** This pathway improvement is expected to be the most cost saving of any of those suggested here. In the most optimistic scenario, is estimated to save £1,344,055 and the most pessimistic scenario is estimated to save £196,521.37.
- **Making every contact count.** Even though this improvement is only expected to lead to a small number of additional people quitting (243) per year, the fact that it is inexpensive for clinicians to offer this advice makes it cost-effective.
- **Conducting patient's yearly reviews through group consultations.** Offering group consultations for yearly reviews is effectively cost-neutral in all three scenarios modelled (whether 10%, 25% or 50% of time spent on yearly reviews is devoted to group consultations). At the same time, a large amount of net population health gain is generated by this improvement due to the extra people who will receive a yearly review.
- **Introducing referral pathways to Breathe Easy.** As the Breathe Easy groups are relatively inexpensive to run, they are expected to be cost-effective scenarios. However, as the groups currently rely on volunteers, they may not be easy to scale up. Therefore, Asthma and Lung UK should offer support if this improvement is taken forward.
- **Improving uptake to smoking cessation services.** Both scenarios modelled for this pathway improvement are expected to be cost-effective. Doubling the number of people with COPD to set quit rates will have a more immediate impact on the COPD pathway due to the expected number of hospital admissions (21) and acute exacerbations (58) it is expected to avoid. However, smoking cessation as the primary prevention would have wider benefits outside of the COPD pathway that are important to consider.

Recommendations

Investing in all these pathway improvements would have a yearly budget impact (sum of the additional costs of the improvements) of, at most, £872,714.20 and, at the least, £407,901.94 dependent on: how many people come forward for spirometry testing through targeted screening; what percentage of time for yearly reviews is spent on group consultation; and how many people come forward for the Breathe Easy Groups.

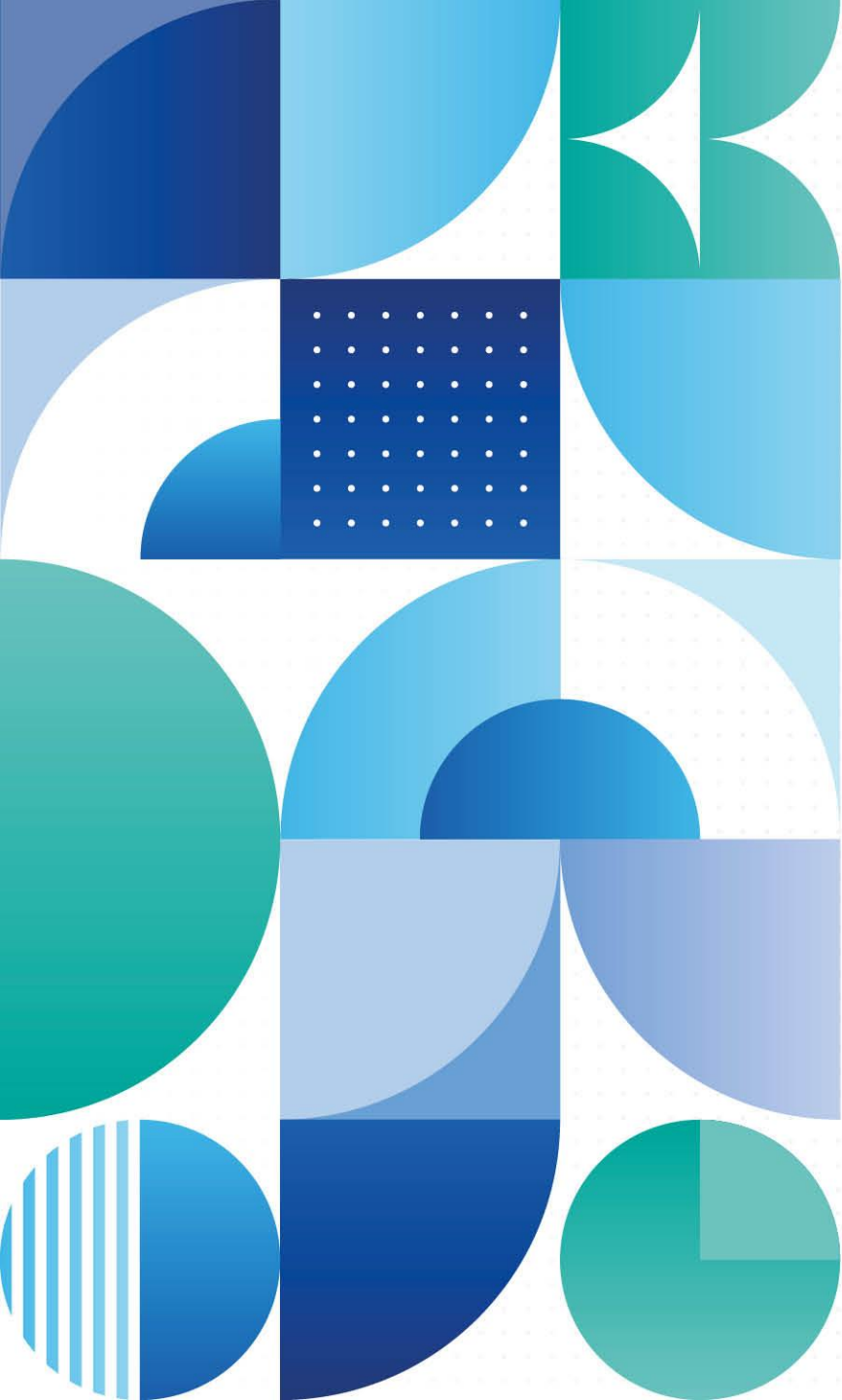
If the targeted COPD screening is successful, it could save up to £1,344,055 which would save more money than the cost of all the suggested pathway improvements combined, due to a reduction in hospital admissions and acute exacerbations. The challenge is being able to release the savings from the screening into other parts of the system. However, it is important to note that we have not factored in the cost of treating the additional cases of COPD identified. If we use the expected cost of treating one person with COPD per year of £523.27, in the most optimistic scenario, where an extra 2,679 people are diagnosed, this would have an associated cost of £1,401,840.33 (plus the additional drug costs which are out of scope of this piece of work). Including the estimated costs of the case-finding itself, it would cost a total of £1,882,352.33 and incur £57,785.33 after considering the cost savings. That said, even taking this into account, the cost/population health ratio would be 0.23 so it would still be the third ranked improvement.

Further information on the recommendations, discussion and limitations can be found in the full report.

Next steps and recommendations

Improving the allocative efficiency of the COPD pathway will improve the health of the COPD population in Nottingham and Nottinghamshire. We recommend that:

1. The group should review these findings, agree next steps and choose the interventions and initiatives.
2. The group should then further develop and evidence those interventions and initiatives, using local intelligence and expertise to make the case for change. There are a number of ways to approach this, including through the development of business cases.
3. The group should approach stakeholders for funding and support with governance. Moving resources can be challenging but does lead to improvements in population health. Having the support of relevant stakeholders will ensure successful interventions and initiatives. Buy-in may be achieved by drawing attention to this report, presenting findings and continuing conversations throughout the system. HEU can support the group with this.
4. The system can then navigate relevant funding and governance for the chosen interventions. This may be achieved in a variety of ways (e.g., seeking funding, transferring responsibility for budgets to the most relevant organisations, and reviewing and streamlining existing assumptions and processes).
5. Finally, selected and appropriately resourced initiatives should be closely monitored, measured and controlled to assess impact. This could be done by managing a similar STAR process in 12 months' time.



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