



Hiding in Plain Sight: A Population Health
Approach to Finding and Managing
Alpha₁ Antitrypsin Deficiency

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The most common chronic lung diseases are **COPD**² **AND ASTHMA**¹

Up to 5% of patients with COPD² and 3% of patients with asthma³ may have an underlying genetic **CAUSE SUCH AS AATD**

PROMPT AND ACCURATE diagnosis and management can reduce patient burden and societal cost⁴

AATD=alpha-1 antitrypsin deficiency
COPD=chronic obstructive pulmonary disease

>36 million people with chronic lung and airway disease in the US⁵

COPD exacerbations are costly and **ACCELERATE DISEASE BURDEN⁶**

COPD is **UNDERDIAGNOSED**⁸ and **UNTREATED⁷**

1. **>36 million people with chronic lung and airway disease in the US**

-> [AmericanLungAssociation.com](https://www.AmericanLungAssociation.com)

- Mission (updated 04/2020) (v1.0)

- ALA (mission)

2021/P2/para6/line1 (p.2)

Nearly 37 million Americans live with a chronic lung disease like asthma and COPD, which includes emphysema and chronic bronchitis

[Kaitlyn Russell]

2. **common chronic lung diseases**

are COPD

AND ASTHMA¹

-> www.thelancet.com/respiratory

- Prevalence and attributable

health burden... (created 06/2020)

(v1.0) - Soriano

2020/P585/col1/para1/lns4-5;

/col2/para1/ln1/ (p.1)

Some of the most common chronic respiratory diseases are asthma, chronic obstructive pulmonary disease (COPD), and occupational lung disease

[Kaitlyn Russell]

3. **COPD**

exacerbations are costly and

ACCELERATE

DISEASE

BURDEN⁶

-> Dransfeld, American Journal of Respiratory and Critical Care Medicine (02/2016)

(v1.0) - Dransfeld 2017, p325/col1/lines1-5 (p.2)

Dransfeld, American Journal of Respiratory and Critical Care Medicine (02/2016)

(v1.0) - Dransfeld 2017, p325/col1/lines1-3 (p.2)

Acute exacerbations of chronic obstructive pulmonary disease (COPD) account for most COPD-related costs

[Kaitlyn Russell]

4. should be a ref anchor to ref 2 here. I don't see any anchor for Brode ref so will need this before I can verify. *[Tara McMillin]*

5. and 3 % of patients with asthma3

Don't we have a more recent statistic? Ref 3 is from 2013 but this stat is actually cited from an article from 2007. *[Tara McMillin]*

6. and 3 % of patients with asthma3

-> Siri (12/2013) (v1.0) - Siri 2012. P2/col2/para5/lines18-20 (p.2)
In a study of patients with poorly controlled asthma, AATD was present in 2 % to 3 % of subjects, with 10 .5 % being carriers of a deficiency

[Kaitlyn Russell]

7. PROMPT AND ACCURATE diagnosis and management can reduce patient burden and societal cost4

-> Fromer, Int J Gen Med (08/2011) (v1.0) - Fromer 2011, pg1/abstract/lines8-11 (p.1)
Increased familiarization with COPD diagnosis and treatment guidelines, and proactive identification of patients with increased risk of deve

[Kaitlyn Russell]

8. COPD is UNDERDIAGNOSED and UNDERTREATED7

-> Diab (11/2018) (v1.0) - Diab 2018/P1131/col3/para3/ (p.2)
Taken together, these studies suggest that approximately 10 % of adults aged 40 years or older in the developed world have evidence of pers
Diab (11/2018) (v1.0) - Diab 2018/P1132/col2/para2/line1-4 (p.3)
ethnic minority (9).
Studies have shown that an important factor contributing to COPD underdiagnosis is the underuse of spirometry, partic

[Kaitlyn Russell]

9. strike "and undertreated" as the ref does not discuss treatment *[Tara McMillin]*

Population-based health can reduce health provider burden and bring benefit to multiple stakeholders⁸

Small actions over a large population can have wide benefit to patients with lung disease⁹

6. Small actions over a large population can have wide benefit to patients with lung disease⁹
-> [Ferrone \(03/2019\) \(v1.0\) - Ferrone 2019/P2/col1/para3 \(p.2\)](#)

A population health approach encourages small, systematic changes for broad impact

Lower costs and better outcomes³

Higher patient satisfaction rates and better care efficiencies⁴

Stronger cost controls and reduced risks⁵

Alignment of prices with patient outcomes⁷

Reduced healthcare spending and better overall health⁸

☒ Prompt Identification
☒ Accurate Diagnosis
☒ Personalized Management

*Automation
Checklists
Shared tasks
Leverage EMR*

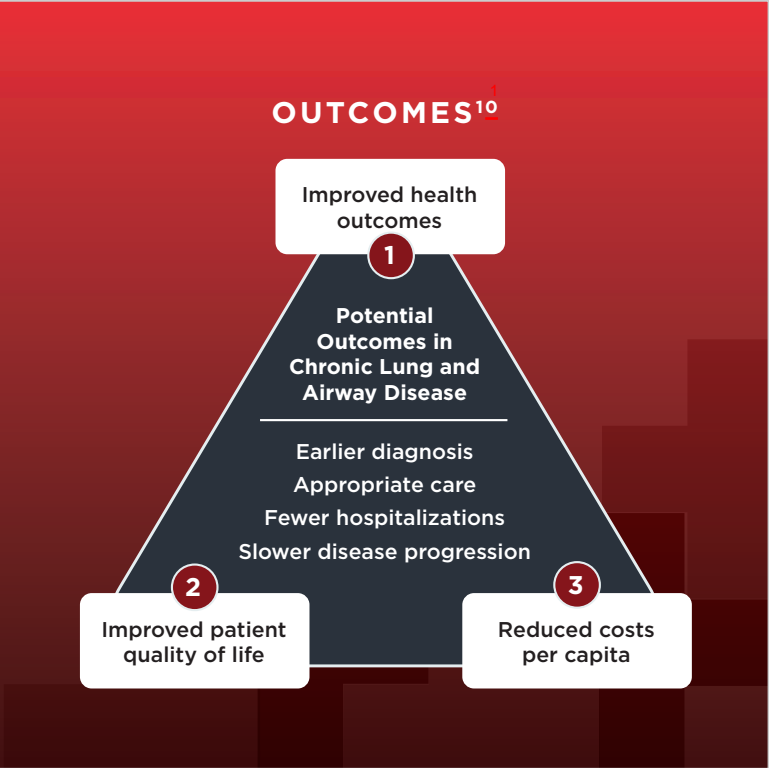
Systematically look for modifiable factors in patients with chronic lung and airway disease

- ☒ On-site spirometry
- ☒ Case management
- ☒ Disease education
- ☒ Self-management education (eg, correct inhaler use)
- ☒ Blood tests for underlying causes
- ☒ Family testing for familial cases
- ☒ Personalized treatment
- ☒ Referrals for specialized treatment when needed

AATD can be tested for and ruled out early as part of a comprehensive population health approach¹⁰

[In this study, our objective was to develop a COPD IDM-self- management and COPD IDM-structured follow-up intervention in primary care, incl](#)
[Kaitlyn Russell]

7. Alignment of prices with patient outcomes⁸
-> [Pennestri \(08/2019\) \(v1.0\) - Pennestri 2019/P2/col1/para3/ \(p.2\)](#)



1. 0
The number 10 will be removed here as there is no reference needed here.
[Tommy Zambelli]

2. Population-based health can reduce health provider burden and bring benefit to multiple stakehol...
-> [Pennestri \(08/2019\) \(v1.0\) - Pennestri 2019/P2/col1/para3/ \(p.2\)](#)
[Shifting from a traditional approach to short-term savings to a more comprehensive approach \(both in terms of indicators and stakeholders \)](#)
[Tommy Zambelli]

3. Lower costs and better outcomes⁸
-> [Pennestri \(08/2019\) \(v1.0\) - Pennestri 2019/P2/col1/para3/ \(p.2\)](#)
[Shifting from a traditional approach to short-term savings to a more comprehensive approach \(both in terms of indicators and stakeholders \)](#)
[Tommy Zambelli]

4. Higher patient satisfaction rates and better care efficiencies⁸
-> [Pennestri \(08/2019\) \(v1.0\) - Pennestri 2019/P2/col1/para3/ \(p.2\)](#)
[Shifting from a traditional approach to short-term savings to a more comprehensive approach \(both in terms of indicators and stakeholders \)](#)
[Tommy Zambelli]

5. Stronger cost controls and reduced risks⁸
-> [Pennestri \(08/2019\) \(v1.0\) - Pennestri 2019/P2/col1/para3/ \(p.2\)](#)
[Shifting from a traditional approach to short-term savings to a more comprehensive approach \(both in terms of indicators and stakeholders \)](#)
[Tommy Zambelli]

[Shifting from a traditional approach to short-term savings to a more comprehensive approach \(both in terms of indicators and stakeholders \)](#)

[Tommy Zambelli]

8. Reduced healthcare spending

and better overall health

[-> Pennestri \(08/2019\) \(v1.0\) - Pennestri 2019/P2/col1/para3/ \(p.2\)](#)

[Shifting from a traditional approach to short-term savings to a more comprehensive approach \(both in terms of indicators and stakeholders \)](#)

[Tommy Zambelli]

9. AATD can be tested for and

ruled out early as part of

a comprehensive population

health approach...

[-> Global Initiative for COPD \(12/2019\) \(v1.0\) - GOLD 2020/p47/AATD Screening \(p.47\)](#)

[Tommy Zambelli]

References

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9. Ferrone M, et al. *NPJ Prim Care Respir Med*. 2019;29(8):1-9.
10. Global Initiative for Chronic Obstructive Lung Diseases (GOLD). Global Strategy for Diagnosis, Management and Prevention of COPD. 2020 Gold Report. Accessed April 27, 2021. <https://goldcopd.org/gold-reports>

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US-NON-6217v1.0 09/21



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