

## Identifying opportunities for optimising management of high-risk COPD in Australia

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**Introduction:** Prior exacerbation history and current management opportunities are associated with future exacerbation risk. UK and US studies undertaken as part of the CONQUEST program have identified opportunities to optimise COPD management. It is unknown the extent of similar opportunities in other healthcare systems, such as Australia. **Aims:** To review management opportunities for high-risk COPD patients in Australia, with reference to CONQUEST quality standards (identification, assessment, treatment, and follow-up for high-risk COPD) (<https://conquest.care>), and national and international guidelines. **Methods:** We utilised the Optimum Patient Care Research Database Australia (OPCRDA), a primary care database of electronic health record (EHR) data containing 900,000 ever-active patients, to identify patients with a COPD diagnosis at high-risk of future exacerbations ( $\geq 2$  exacerbations in the previous 12 months, based on clinical data and prescribed antibiotics or oral corticosteroids). EHR coded and free text data were analysed to examine COPD maintenance therapy, smoking cessation support and formal COPD reviews (defined as a recorded COPD review/advice/education or lung function assessment). Cross-sectional analyses were conducted on annual patient cohorts between 2015-2019 to exclude confounding by COVID-19. **Results:** The proportion of diagnosed COPD patients defined as high-risk ranged from 30.3% (1620/5340) in 2016 to 24.9% (1476/5992) in 2019 (Table 1). Across the 5-year period, approximately 40% of high-risk patients were not prescribed any COPD maintenance therapy, while the most common therapies were LABA/ICS (~18%) and LAMA/LABA/ICS (~25%). In this population,  $\geq 90\%$  of smokers had recorded smoking cessation support in each study year. Less than 10% of high-risk patients received a COPD review in each study year (Table 1). **Conclusions:** There is substantial opportunity to improve the assessment and treatment of patients with diagnosed COPD by reviewing and managing high-risk patients systematically in line with guidelines and CONQUEST quality standards.

**Table 1:** High-risk COPD patient populations and COPD management outcomes

	2015	2016	2017	2018	2019
<b>Eligible COPD patients<sup>†</sup></b>	N=5,594	N=5,340	N=5,729	N=5,955	N=5,922
<b>High-risk patients<sup>‡</sup></b>	1,534 (27.4%)	1,620 (30.3%)	1,665 (29.1%)	1,586 (26.6%)	1,476 (24.9%)
<b>COPD therapy; n (%*)</b>					
No therapy	567 (37.0)	681 (42.0)	720 (43.2)	661 (41.7)	632 (42.8)
Reliever only	81 (5.3)	19 (1.2)	19 (1.1)	30 (1.9)	23 (1.6)
ICS	27 (1.8)	32 (2.0)	37 (2.2)	25 (1.6)	20 (1.4)
LABA	20 (1.3)	6 (0.4)	11 (0.7)	12 (0.8)	6 (0.4)
LABA	76 (5.0)	73 (4.5)	107 (6.4)	112 (7.1)	105 (7.1)
LAMA	316 (20.6)	305 (18.8)	291 (17.5)	266 (16.8)	221 (15.0)
LABA/ICS	32 (2.1)	57 (3.5)	74 (4.4)	95 (6.0)	86 (5.8)
LABA/LAMA	16 (1.0)	15 (0.9)	6 (0.4)	7 (0.4)	12 (0.8)
LAMA/ICS	399 (26.0)	432 (26.7)	400 (24.0)	378 (23.8)	371 (25.1)
LAMA/LAMA/ICS					
<b>Smoking cessation; n (%**)</b>	186 (92.5)	199 (92.6)	241 (90.9)	240 (92.7)	212 (91.4)
<b>Annual COPD review; n (%*)</b>	97 (6.3)	115 (7.1)	92 (5.5)	105 (6.6)	84 (5.7)

<sup>†</sup>COPD diagnosis, aged  $\geq 40$  yrs, evidence of primary care consultation or prescription in last 24 months, no other significant lung disease, no active cancer (except non-invasive skin cancer)

<sup>‡</sup> $\geq 2$  exacerbations in last 12 months

\*reported as a proportion of the high-risk COPD patients in each year cohort

\*\*reported as a proportion of the high-risk COPD patients who were current smokers in each year cohort

**Key Words:** COPD, Primary Care, High-risk COPD

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