

## 2.03 What effect does home-based management have on COPD patients' hospital & readmission rates

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**Background:** Chronic obstructive pulmonary disease (COPD) is the third leading cause of death worldwide, causing 3.23 million deaths in 2019 (WHO 2023). The direct cost of COPD reportedly increased to €38.6 billion (GOLD 2023). This review systematically searches and appraises the existing literature to determine the impact of home-based management on hospital readmission rates among patients with COPD.

**Method:** Systematic review (SR) methodology was utilized, quantitative studies focusing on readmission rates in COPD patients' who had home-based management care. This review integrates evidence from studies spanning three continents- Asia, Europe, & North America with 3,604 participants. Readmission rates were the primary focus, while secondary goals were Mortality and LOS

**Results:** This SR has shown statically significant results, the impact of home-based management in COPD patients can reduce readmission to hospital by 52%. Mortality while favouring home-based management was not considered statistically significant. LOS meta-analysis showed 1.89day reduction yet the narrative analysis showed a considerably greater reduction.

**Conclusion:** Given the burden on health services this review shows promising results with a reduction in readmission rates, Morality while not statistically significate at 26%, from a human perspective is a significate reduction in mortality. Further research is required on the cost-effectiveness and exploration is warranted to quantify the various types of packages that comprise home-based management to achieve the optimum result.

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### References:

Alshabanat, A., Otterstatter, M. C., Sin, D. D., Road, J., Rempel, C., Burns, J., . . . FitzGerald, J. M. (2017).

Impact of a COPD comprehensive case management program on hospital length of stay and readmission rates. *International journal of chronic obstructive pulmonary disease*, 12, 961-971. doi:10.2147/COPD.S124385

Esteban, C., Moraza, J., Iriberry, M., Aguirre, U., Goiria, B., Quintana, J. M., Capelastegui, A. (2016). Outcomes of a telemonitoring-based program (telePOC) in frequently hospitalized COPD patients. *International journal of chronic obstructive pulmonary disease*, 11, 2919-2930. Retrieved from <http://proxy.library.rcsi.ie/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=27920519&site=ehost-live> <https://www.dovepress.com/>

[front\\_end/cr\\_data/cache/pdf/download\\_1601737204\\_5f7891f4313d2/COPD-115350-outcomes-of-a-telemonitoring-based-program--telepoc--in-freq\\_112416.pdf](front_end/cr_data/cache/pdf/download_1601737204_5f7891f4313d2/COPD-115350-outcomes-of-a-telemonitoring-based-program--telepoc--in-freq_112416.pdf)

GOLD 2023 Global Strategy for the Diagnosis, Management and Prevention of COPD <https://goldcopd.org/2023-gold-report-2/> [file:///C:/Users/Rita/Downloads/GOLD-2023-ver-1.2-7Jan2023\\_WMV.pdf](file:///C:/Users/Rita/Downloads/GOLD-2023-ver-1.2-7Jan2023_WMV.pdf)

Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, Welch VA (editors). *Cochrane Handbook for Systematic Reviews of Interventions* version 6.2 (updated February 2021). Cochrane, 2021. Available from [www.training.cochrane.org/handbook](http://www.training.cochrane.org/handbook).

Ho, T.-W., Huang, C.-T., Chiu, H.-C., Ruan, S.-Y., Tsai, Y.-J., Yu, C.-J., & Lai, F. (2016). Effectiveness of Telemonitoring in Patients with Chronic Obstructive Pulmonary Disease in Taiwan-A Randomized Controlled Trial. *Scientific reports*, 6, 23797. doi:10.1038/srep23797

Irish Thoracic Society (2018) Respiratory Health of the Nation 2018 published by the Irish Thoracic Society. Available at [www.irishthoracicsociety.com](http://www.irishthoracicsociety.com) accessed on 19/10/2020

Jakobsen, A. S., Laursen, L. C., Rydahl-Hansen, S., Ostergaard, B., Gerds, T. A., Emme, C., . . . Phanareth, K. (2015). Home-based telehealth hospitalization for exacerbation of chronic obstructive pulmonary disease: findings from "the virtual hospital" trial. *Telemedicine journal and e-health : the official journal of the American Telemedicine Association*, 21(5), 364-373. doi:<https://dx.doi.org/10.1089/tmj.2014.0098>

Kessler, R., Casan-Clara, P., Koehler, D., Tognella, S., Viejo, J. L., Dal Negro, R. W., . . . Bourbeau, J. (2018). COMET: a multicomponent home-based disease-management programme versus routine care in severe COPD. *The European respiratory journal*, 51(1). doi:10.1183/13993003.01612-2017

Ko, F. W., Cheung, N. K., Rainer, T. H., Lum, C., Wong, I., & Hui, D. S. (2017). Comprehensive care programme for patients with chronic obstructive pulmonary disease: a randomised controlled trial. *Thorax*, 72(2), 122-128. doi:10.1136/thoraxjnl-2016-208396

Marcos, P. J., Represas Reppas, C., Ramos, C., Cimadevila Álvarez, B., Fernández Villar, A., Fraga Liste, A., . . . García Comesaña, J. (2020). Impact of a Home Telehealth Program After a Hospitalized COPD Exacerbation: A Propensity Score Analysis. *Arch Bronconeumol*. doi:10.1016/j.arbres.2020.05.030

Vianello, A., Fusello, M., Gubian, L., Rinaldo, C., Dario, C., Concas, A., . . . Mancin, S. (2016). Home telemonitoring for patients with acute exacerbation of chronic obstructive pulmonary disease: a randomized controlled trial. *BMC Pulmonary Medicine*, 16(1), 157. doi:10.1186/s12890-016-0321-2

WHO (2023) Chronic Obstructive Pulmonary Disease (COPD) Key Facts webpage [https://www.who.int/news-room/fact-sheets/detail/chronic-obstructive-pulmonary-disease-\(copd\)](https://www.who.int/news-room/fact-sheets/detail/chronic-obstructive-pulmonary-disease-(copd)) accessed April 2023