

REFERENCES

- Almirall, J., Serra-Prat, M., Bolívar, I., Balasso, V., 2017. Risk Factors for Community-Acquired Pneumonia in Adults: A Systematic Review of Observational Studies. *Respiration* **94**:299–311.
- Alqubbanchi, F. B., & Yaqoob Al-Hamadani, F. (2022). A Pharmacoeconomics Study for Anticoagulants used for Hospitalized COVID-19 Patients in Al-Najaf Al-Ashraf city –Iraq(Conference Paper)#. *Iraqi Journal of Pharmaceutical Sciences* Andayani, T.M., 2013. *Farmakoekonomi Prinsip dan Metodologi*. Bursa Ilmu, Yogyakarta, Indonesia.
- Anekar, A. A., & Cascella, M. 2022. WHO Analgesic Ladder. In *StatPearls [Internet]*. StatPearls Publishing: <https://www.ncbi.nlm.nih.gov/books/NBK554435/>
- Barbagelata, E. Cilloniz, C. Dominedo, C. Torres, A. Nicolini, A. Solidoro, P. 2020. Gender differences in community-acquired pneumonia. *Minerva Medica* **111**(2):153-65.
- Burhan, E., Susanto, A.D., Isbaniah, F., Nasution, S.A., Ginanjar, E., Pitoyo, W., Susilo, A., et al. (ed). 2020. Pedomana Tatalaksana COVID-19. 1st edition. PDPI, PERKI, PAPDI, PERDATIN, IDAI. Jakarta. Indonesia
- Burhan, E., Susanto, A.D., Isbaniah, F., Nasution, S.A., Ginanjar, E., Pitoyo, W., Susilo, A., et al. (ed). 2020. Pedomana Tatalaksana COVID-19. 3rd edition. PDPI, PERKI, PAPDI, PERDATIN, IDAI. Jakarta. Indonesia.
- Burhan, E., Susanto, A.D., Isbaniah, F., Nasution, S.A., Ginanjar, E., Pitoyo, W., Susilo, A., et al. (ed). 2021. Pedomana Tatalaksana COVID-19. 2rd edition. PDPI, PERKI, PAPDI, PERDATIN, IDAI. Jakarta. Indonesia.
- Burhan, E., Susanto, A.D., Isbaniah, F., Nasution, S.A., Ginanjar, E., Pitoyo, W., Susilo, A., et al. (ed). 2022. Pedomana Tatalaksana COVID-19. 4th edition. PDPI, PERKI, PAPDI, PERDATIN, IDAI. Jakarta. Indonesia
- Chalmers, J.D., Singanayagam, A., Akram, A.R., Mandal, P., Short, P.M., Choudhury, et al. 2010. Severity assessment tools for predicting mortality in hospitalised patients with community-acquired pneumonia. Systematic review and meta-analysis. *Thorax* **65**:878–883.

- Charlson, M.E., Pompei, P., Ales, K.L., MacKenzie, C.R., 1987. A new method of classifying prognostic comorbidity in longitudinal studies: Development and validation. *Journal of Chronic Diseases* **40**:373–383.
- Chen, Y., Li, K., Pu, H., Wu, T., 2011. Corticosteroids for pneumonia. *Cochrane Database of Systematic Reviews*.
<https://doi.org/10.1002/14651858.CD007720.pub2>
- Daniel, W.W. 1999. *Biostatistics: A Foundation for Analysis in the Health Sciences 7th Edition*. New York: John Wiley & Sons.
- Divino, V., Schranz, J., Early, M., Shah, H., Jiang, M., DeKoven, M., 2020. The annual economic burden among patients hospitalized for community-acquired pneumonia (CAP): a retrospective US cohort study. *Current Medical Research and Opinion*, **36**:151–160.
- Divino, V., Schranz, J., Early, M., Shah, H., Jiang, M., DeKoven, M., 2020b. The 1-year economic burden of community-acquired pneumonia (CAP) initially managed in the outpatient setting in the USA. *Journal of Comparative Effectiveness Research* **9**:127–140.
- Dockrell, D.H., Ho, A., Gordon, S.B. 2022, 'Infectious Disease of The Lung : Community-Acquired Pneumonia' in Broadbuss, V.C., Ernst, J.D., King Jr, T.D., Lazarus, S.C., Sarmiento, K.F., Schnapp, L.M., *Murray & Nadel's Textbook of Respiratory Medicine*, 7th ed, Elsevier, Philadelphia, pp 608. Ed, E.Ç., Hat, O.N., 2015. Economic burden of nosocomial pneumonia in non-intensive care clinics. *Tuberk Thoraks*, **63**(1):8-12.
- Drummond MF, Sculpher MJ, Torrance GW, et al. 2005. *Methods for the Economic Evaluation of Health Care Programmes (3rd ed.)*. Oxford: Oxford University Press, 2005 cit. Rascati, K.L., 2014. *Essentials of pharmacoeconomics*, Second edition. ed. Wolters Kluwer Health/Lippincott Williams & Wilkins, Philadelphia.
- Ed, E.Ç., Hat, O.N., 2015. Economic Burden of Nosocomial Pneumonia in Non-intensive Care Clinics. *Tuberk Toraks*, **63**(1):8 - 12.

- Endradita, G. 2021. Indikator Mutu Nasional Rumah Sakit di Indonesia 2021. viewed 16 July 2022, <<https://galihendradita.wordpress.com/2021/12/19/indikator-mutu-nasional/>>
- Feldman, C., Anderson, R., 2016. Corticosteroids in the adjunctive therapy of community-acquired pneumonia: an appraisal of recent meta-analyses of clinical trials. *Journal of Thoracic Disease*, **8**. <https://doi.org/10.21037/jtd.2016.02.43>
- Fine, M.J., Pratt, H.M., Obrosky, D.S., Lave, J.R., McIntosh, L.J., Singer, D.E., Coley, C.M., Kapoor, W.N., 2000. Relation between length of hospital stay and costs of care for patients with community-acquired pneumonia. *The American Journal of Medicine* **109**:378–385.
- Firmansyah, F., Andayani, T.M., Pinzon, R.T. 2016. Analisis Biaya Penyakit Stroke Iskemik. *Jurnal Manajemen dan Pelayanan Farmasi*, **6**(1):27-34.
- Fuchs Bahlis, L., Passamani Diogo, L., Costa Fuchs, S., 2021. Charlson Comorbidity Index and other predictors of in-hospital mortality among adults with community-acquired pneumonia. *J Bras Pneumol*. **47**: e20200257–e20200257.
- Gandhi, R.T., Lynch, J.B. and del Rio, C. 2020. ‘Mild or Moderate Covid-19’, *New England Journal of Medicine*. Edited by C.G. Solomon, 383(18), pp. 1757–1766.
- Grief, S.N., Loza, J.K., 2018. Guidelines for the Evaluation and Treatment of Pneumonia. *Primary Care: Clinics in Office Practice* **45**:485–503.
- Health Care Association of New Jersey. 2017. *Pain-Management-Guidelines*. Best Practice Committee of the Health Care Association of New Jersey.
- Henig, O., Kaye, K.S., 2017. Bacterial Pneumonia in Older Adults. *Infectious Disease Clinics of North America* **31**: 689–713.
- Hessel, F., 2008. Burden of DiseaseBurdenof disease(s), in: Kirch, W. (Ed.), *Encyclopedia of Public Health*. Springer Netherlands, Dordrecht, pp. 94–96.

Indonesian Society of Respiriology. 2018. *Pers Release Perhimpunan Dokter Paru Indonesia dalam rangka World Pneumonia Day 2018*. viewed 4 August 2022 < <https://www.klikpdpi.com/index.php?mod=article&sel=8704>>

Jackson, M.L., Neuzil, K.M., Thompson, W.W., Shay, D.K., Yu, O., Hanson, C.A., Jackson, L.A., 2004 The Burden of Community-Acquired Pneumonia in Seniors: Results of a Population-Based Study. *Clinical Infectious Diseases*, **39**(11):1642-1650.

Jo, C., 2014. Cost-of-illness studies: concepts, scopes, and methods. *Clin Mol Hepatol* **20**: 327.

Jain, V., Vashisht, R., Yilmaz, G., Bhardwaj, A., 2022. Pneumonia Pathology, in: StatPearls. StatPearls Publishing, Treasure Island (FL). viewed 17 August 2022 < <https://www.ncbi.nlm.nih.gov/books/NBK526116/>>.

Kalil, A.C., Metersky, M.L., Klompas, M., Muscedere, J., Sweeney, D.A., Palmer, L.B., et al. 2016. Management of Adults With Hospital-acquired and Ventilator-associated Pneumonia: 2016 Clinical Practice Guidelines by the Infectious Diseases Society of America and the American Thoracic Society. *Clinical Infectious Diseases*, **63**:e61–e111.

Kaplan, V., Angus, D.C., Griffin, M.F., Clermont, G., Scott Watson, R., Linde-Zwirble, W.T., 2002. Hospitalized Community-acquired Pneumonia in the Elderly: Age- and Sex-related Patterns of Care and Outcome in the United States. *Am J Respir Crit Care Med* **165**: 766–772.

Kobayashi, M., Abdul-Karim, A., Milucky, J.L., Zakariah, A., Leidner, A.J., Asiedu-Bekoe, F., et al. 2021. Estimating the economic burden of pneumococcal meningitis and pneumonia in northern Ghana in the African meningitis belt post-PCV13 introduction. *Vaccine* **39**:4685–4699.

Konomura, K., Nagai, H., Akazawa, M., 2017. Economic burden of community-acquired pneumonia among elderly patients: a Japanese perspective. *Pneumonia* **9**:19.

Kradin, R.L., Mark, E.J., 2018. 8 - Pathology of Pulmonary Infection, in: Kradin, R.L. (Ed.), *Diagnostic Pathology of Infectious Disease* (Second Edition). Elsevier, pp. 143–206. <https://doi.org/10.1016/B978-0-323-44585-6.00008-4>

- Lee, M.S., Oh, J.Y., Kang, C.-I., Kim, E.S., Park, S., Rhee, C.K., Jung, J.Y., Jo, K.-W., Heo, E.Y., Park, D.-A., Suh, G.Y., Kiem, S., 2018. Guideline for Antibiotic Use in Adults with Community-acquired Pneumonia. *Infect Chemother* **50**: 160.
- Lim, W.S., 2022. Pneumonia—Overview, in: *Encyclopedia of Respiratory Medicine*. Elsevier, pp. 185–197.
- Lim, W.S., 2003. Defining community acquired pneumonia severity on presentation to hospital: an international derivation and validation study. *Thorax* **58**:377–382.
- Lim, W.S., Baudouin, S.V., George, R.C., Hill, A.T., Jamieson, C., Le Jeune, I., et al. 2009. BTS guidelines for the management of community acquired pneumonia in adults: update 2009. *Thorax* **64**:iii1–iii55.
- López-de-Andrés, A., Albaladejo-Vicente, R., Miguel-Diez, J., Hernández-Barrera, V., Ji, Z., Zamorano-León, J.J., Lopez-Herranz, M., Carabantes Alarcon, D., Jimenez-Garcia, R., 2021. Gender differences in incidence and in-hospital outcomes of community-acquired, ventilator-associated and nonventilator hospital-acquired pneumonia in Spain. *Int J Clin Pract* **75**.
- Mandell, L.A., Wunderink, R.G., Anzueto, A., Bartlett, J.G., Campbell, G.D., Dean, N.C., et al. 2007. Infectious Diseases Society of America/American Thoracic Society Consensus Guidelines on the Management of Community-Acquired Pneumonia in Adults. *Clinical Infectious Diseases* **44**:S27–S72.
- Mazidah, Z., Yasin, N.M., Kristina, S.A., 2019. Analisis Biaya Penyakit Stroke Pasien Jaminan Kesehatan Nasional di RSUD Blambangan Banyuwangi. *J. Manaj. dan Pelayanan Farm*, **9**(2):76-87.
- Ministry of Health Republic of Indonesia. 2013. *Peraturan Menteri Kesehatan Republik Indonesia Nomor 71 Tahun 2013 tentang Pelayanan Kesehatan pada Jaminan Kesehatan Nasional*. Jakarta, Ministry of Health Republic of Indonesia.
- Ministry of Health Republic of Indonesia. 2014. *Peraturan Menteri Kesehatan Republik Indonesia Nomor 28 Tahun 2014 tentang Pedoman Pelaksanaan Program Jaminan Kesehatan Nasional*. Jakarta, Ministry of Health Republic of Indonesia.

- Ministry of Health Republic of Indonesia. 2015. *Keputusan Menteri Kesehatan Republik Indonesia Nomor HK.02.02/Menkes/524/2015 tentang Pedoman Penyusunan dan Penerapan Formularium Nasional*. Jakarta, Ministry of Health Republic of Indonesia.
- Ministry of Health Republic of Indonesia. 2016. *Peraturan Menteri Kesehatan Republik Indonesia Nomor 52 Tahun 2016 tentang Standar Tarif Pelayanan Kesehatan dalam Penyelenggaraan Program Jaminan Kesehatan*. Jakarta, Ministry of Health Republic of Indonesia.
- Ministry of Health Republic of Indonesia. 2019. *Keputusan Menteri Kesehatan Republik Indonesia Nomor HK.01.07/Menkes/813/2019 tentang Formularium Nasional*. Jakarta, Ministry of Health Republic of Indonesia.
- Ministry of Health Republic of Indonesia. 2020. *Keputusan Menteri Kesehatan Republik Indonesia Nomor HK.01.07/Menkes/350/2020 tentang Perubahan atas Keputusan Menteri Kesehatan Republik Indonesia Nomor HK.01.07/Menkes/813/2019 tentang Formularium Nasional*. Jakarta, Ministry of Health Republic of Indonesia.
- Ministry of Health Republic of Indonesia. 2020. *Peraturan Menteri Kesehatan Republik Indonesia Nomor 12 Tahun 2020 tentang Akreditasi Rumah Sakit*. Jakarta, Ministry of Health Republic of Indonesia.
- Ministry of Health Republic of Indonesia. 2021. *Profil Kesehatan 2021*. Jakarta, Ministry of Health Republic of Indonesia.
- Ministry of Health Republic of Indonesia. 2022. *Standar Akreditasi Rumah Sakit*. Jakarta, Ministry of Health Republic of Indonesia.
- Ministry of State Secretariat of the Republic of Indonesia. 2011, *Undang-Undang Republik Indonesia Nomor 24 Tahun 2011 tentang Badan Penyelenggara Jaminan Sosial*. Jakarta, Ministry of State Secretariat of the Republic of Indonesia
- Ministry of State Secretariat of the Republic of Indonesia. 2018, *Peraturan Presiden Republik Indonesia Nomor 82 Tahun 2018 tentang Jaminan Kesehatan*, Jakarta, Ministry of State Secretariat of the Republic of Indonesia
- National Institute of Health Research and Development. 2018. *Laporan Nasional Riskesdas*. Jakarta, Minsitry of Health Republic of Indonesia.

- Nguyen, M.T.N., Saito, N., Wagatsuma, Y., 2019. The effect of comorbidities for the prognosis of community-acquired pneumonia: an epidemiologic study using a hospital surveillance in Japan. *BMC Res Notes* **12**:817.
- Olson, G., Davis, A.M., 2020. Diagnosis and Treatment of Adults With Community-Acquired Pneumonia. *JAMA* **323**:885.
- Pakhale, S., Mulpuru, S., Verheij, T.J., Kochen, M.M., Rohde, G.G., Bjerre, L.M., 2014. Antibiotics for community-acquired pneumonia in adult outpatients. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.CD002109.pub4>
- Park, Y., Raza, S., George, A., Agrawal, R., Ko, J., 2017. The Effect of Formulary Restrictions on Patient and Payer Outcomes: A Systematic Literature Review. *JMCP* **23**:893–901.
- Rahmandani, A., Sarnianto, P., Anggriani, Y., & Dermawan Purba, F. (2021). Analisis Efektivitas Biaya Penggunaan Obat Antivirus Oseltamivir dan Favipiravir pada Pasien Covid-19 Derajat Sedang di Rumah Sakit Sentra Medika Cisalak Depok. *Majalah Farmasetika*, 6, 133.
- Rascati, K.L., 2014. *Essentials of pharmacoeconomics*, Second edition. ed. Wolters Kluwer Health/Lippincott Williams & Wilkins, Philadelphia.
- Regunath, H., Oba, Y., 2021. *Community-Acquired Pneumonia*. StatPearls Publishing.
- Richards, F., Kodjamanova, P., Chen, X., Li, N., Atanasov, P., Bennetts, L., Patterson, B. J., Yektashenas, B., Mesa-Frias, M., Tronczynski, K., Buyukkaramikli, N., & El Khoury, A. C. (2022). Economic Burden of COVID-19: A Systematic Review. *ClinicoEconomics and Outcomes Research*, Volume 14, 293–307.
- Rochwerg, B., Oczkowski, S.J., Siemieniuk, R.A.C., Agoritsas, T., Belley-Cote, E., D’Aragon, F., et al. 2018. Corticosteroids in Sepsis: An Updated Systematic Review and Meta-Analysis. *Critical Care Medicine* **46**:1411–1420.
- Roffman, C.E., Buchanan, J., Allison, G.T., 2016. Charlson Comorbidities Index. *Journal of Physiotherapy* 62, 171.
- Santoso, S., 2020. Panduan Lengkap SPSS 26. PT. Gramedia, Jakarta.
- Setiawan, D., Endarti, D., A. Suwantika, A., 2017. *Farmakoekonomi Modeling*. UMP Pres, Purwokerto, Indonesia.

- Sibbel, S., Sato, R., Hunt, A., Turenne, W., Brunelli, S.M., 2016. The clinical and economic burden of pneumonia in patients enrolled in Medicare receiving dialysis: a retrospective, observational cohort study. *BMC Nephrol* **17**:199.
- Siemieniuk R, Alonso-Coello P, Guyatt G. 2016. Corticosteroid therapy for patients hospitalized with community-acquired pneumonia. *Ann Intern Med*, **164**(9):636.
- Sikka, R., Tommaso, L.H., Kaucky, C., Kulstad, E.B., 2012. Diagnosis of pneumonia in the ED has poor accuracy despite diagnostic uncertainty. *The American Journal of Emergency Medicine* **30**:881–885.
- Simonetti, A.F., Viasus, D., Garcia-Vidal, C., Carratalà, J., 2014. Management of community-acquired pneumonia in older adults. *Therapeutic Advances in Infection* **2**: 3–16.
- Skevaki, C.L., Tsakris, A., Papadopoulos, N.G. 2014, 'Pneumonia: Comorbid and Coexisting', in Lockey, R.F., et al, *Asthma: Comorbidities, Coexisting Conditions, and Differential Diagnosis*. Oxford University Press, New York.
- Social Security Administrator for Health. 2016, Peraturan Badan Penyelenggara Jaminan Sosial Kesehatan Nomor 8 Tahun 2016 tentang Penerapan Kendali Mutu dan Kendali Biaya pada Penyelenggaraan Program Jaminan Kesehatan Nasional, Jakarta, Social Security Administrator for Health.
- Social Security Administrator for Health. 2018, Panduan Manual Verifikasi Klaim INA-CBGs Edisi 1. Jakarta, Social Security Administrator for Health.
- Song, J.-H., Thamlikitkul, V., Hsueh, P.-R., 2011. Clinical and economic burden of community-acquired pneumonia amongst adults in the Asia-Pacific region. *International Journal of Antimicrobial Agents*, **38**:108-117.
- Stern, A., Skalsky, K., Avni, T., Carrara, E., Leibovici, L., Paul, M., 2017. Corticosteroids for pneumonia. *Cochrane Database of Systematic Reviews* <<https://doi.org/10.1002/14651858.CD007720.pub3>>
- Thomas, C.P., Ryan, M., Chapman, J.D., Stason, W.B., Tompkins, C.P., Suaya, J.A., Polsky, D., Mannino, D.M., Shepard, D.S., 2012. Incidence and Cost of Pneumonia in Medicare Beneficiaries. *Chest* **142**, 973–981.
- Thomas, D. et al. 2019. 'Pharmacoeconomic Analyses and Modeling', in *Clinical Pharmacy Education, Practice and Research*. Elsevier, pp. 261–275.

- Tichopad, A., Roberts, C., Gembula, I., Hajek, P., Skoczynska, A., Hryniewicz, W., et al. 2013. Clinical and Economic Burden of Community-Acquired Pneumonia among Adults in the Czech Republic, Hungary, Poland and Slovakia. *PLoS ONE* **8**:8.
- Tokgoz Akyil, F., Hazar, A., Erdem, I., Pehlivan Ones, C., Yalcinsoy, M., Irmak, I., Kasapoglu, U.S., 2015. Hospital Treatment Costs and Factors Affecting These Costs in Community-Acquired Pneumonia. *Turk Thorac J* **16**, 107–113.
- Tömöri, G., Bács, Z., 2015. Application of Cost Analysis Methods in Pharmacoeconomic Decisions. *Procedia Economics and Finance*, **32**;416–422.
- Tonin, F.S., Aznar-Lou, I., Pontinha, V.M., Pontarolo, R., Fernandez-Llimos, F., 2021. Principles of pharmacoeconomic analysis: the case of pharmacist-led interventions. *Pharm Pract (Granada)* **19**:2302.
- Torio, C.M., Moore, B.J., 2016. National Inpatient Hospital Costs: The Most Expensive Conditions by Payer, 2013, *Healthcare Cost and Utilization Project Statistical Briefs*. Agency for Healthcare Research and Quality, US.
- Torres, A., Niederman, M.S., Chastre, J., Ewig, S., Fernandez-Vandellos, P., Hanberger, H. 2017. International ERS/ESICM/ESCMID/ALAT guidelines for the management of hospital-acquired pneumonia and ventilator-associated pneumonia: Guidelines for the management of hospital-acquired pneumonia/ventilator-associated pneumonia of the European Respiratory Society (ERS), European Society of Intensive Care Medicine (ESICM), European Society of Clinical Microbiology and Infectious Diseases (ESCMID) and Asociación Latinoamericana del Tórax (ALAT). *Eur Respir J*, **50**:1700582.
- Troeger, C., Forouzanfar, M., Rao, P.C., Khalil, I., Brown, A., Swartz, S., et al. 2017. Estimates of the global, regional, and national morbidity, mortality, and aetiologies of lower respiratory tract infections in 195 countries: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet Infectious Diseases* **17**:1133–1161.
- Tumanan-Mendoza, B.A., Mendoza, V.L., Punzalan, F.E.R., Reganit, P.F.M., Bacolcol, S.A.A. 2015, Economic Burden of Community-Acquired Pneumonia among Adults in the Philippines: Its Equity and Policy Implications in the Case Rate Payments of the Philippine Health Insurance Corporation. *Value in Health Regional Issues* **6**:118–125.
- Turshudzhyan, A. (2020) ‘Anticoagulation Options for Coronavirus Disease 2019 (COVID-19)-Induced Coagulopathy’, *Cureus* [Preprint].

- Volteas, P. *et al.* (2022) ‘Low-molecular-weight heparin compared with unfractionated heparin in critically ill COVID-19 patients’, *Journal of Vascular Surgery: Venous and Lymphatic Disorders*, 10(5), pp. 1128–1136.
- Uematsu, H., Yamashita, K., Kunisawa, S., Fushimi, K., Imanaka, Y., 2016. The economic burden of methicillin-resistant *Staphylococcus aureus* in community-onset pneumonia inpatients. *American Journal of Infection Control* **44**:1628–1633.
- Uranga, A., España, P.P., Bilbao, A., Quintana, J.M., Arriaga, I., Intxausti, M., et al. 2016. Duration of Antibiotic Treatment in Community-Acquired Pneumonia: A Multicenter Randomized Clinical Trial. *JAMA Intern Med* **176**:1257.
- van Vugt, S.F., Verheij, T.J.M., de Jong, P.A., Butler, C.C., Hood, K., Coenen, S., et al. 2013. Diagnosing pneumonia in patients with acute cough: clinical judgment compared to chest radiography. *Eur Respir J* **42**:1076–1082.
- Welte, T., Torres, A., Nathwani, D., 2012. Clinical and economic burden of community-acquired pneumonia among adults in Europe. *Thorax* **67**:71–79.
- Widyati. 2019. *Praktik Farmasi Klinik pada COVID-19*. Uwais Inspirasi Indonesia.
- World Health Organization. 2019. *ICD-10 Version:2019*, viewed 15 August 2022, <<https://icd.who.int/browse10/2019/en#/J09-J18>>.
- World Health Organization. 2020. *The Top 10 Causes of Death*, viewed 14 August 2022, <<https://www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death>>.
- World Health Organization. 2021a. *Pneumonia*, viewed 12 March 2022, <<https://www.who.int/news-room/fact-sheets/detail/pneumonia>>.
- World Health Organization. 2021b. *WHO provides one million antigen-detecting rapid diagnostic test kits to accelerate COVID-19 testing in Indonesia* viewed 17 July 2022 <<https://www.who.int/indonesia/news/detail/17-03-2021-who-provides-one-million-antigen-detecting-rapid-diagnostic-test-kits-to-accelerate-COVID-19-testing-in-indonesia>>.
- World Health Organization. 2022. *International Classification of Disease*. viewed 15 August 2022 <<https://www.who.int/standards/classifications/classification-of-diseases>>.

- Wu, Z. and McGoogan, J.M. (2020) ‘Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases From the Chinese Center for Disease Control and Prevention’, *JAMA*, 323(13), p. 1239.
- Wunderink, R.G., Waterer, G., 2017. Advances in the causes and management of community acquired pneumonia in adults. *BMJ*, **358**:j2471.
- Yoo, K.H., Yoo, C.G., Kim, S.K., Jung, J.Y., Lee, M.G., Uh, S.T., et al. 2013. Economic Burden and Epidemiology of Pneumonia in Korean Adults Aged over 50 Years. *J Korean Med Sci* **28**:888.
- Yousefifard, M. *et al.* 2020. ‘Antiviral Therapy in Management of COVID-19: a System- atic Review on Current Evidence’.
- Yu, H., Rubin, J., Dunning, S., Li, S., Sato, R., 2012. Clinical and Economic Burden of Community-Acquired Pneumonia in the Medicare Fee-for-Service Population. *J Am Geriatr Soc* **60**:2137–2143.
- Yuki, K., Fujiogi, M., Koutsogiannaki, S., 2020. COVID-19 pathophysiology: A review. *Clinical Immunology* **215**, 108427.