



EDITORIAL

World health observances in November 2020: adult and pediatric pneumonia, preterm birth, and chronic obstructive pulmonary disease in focus

 **Francisco Casado**^{1,2} and  **Rory E. Morty**^{1,2}

¹Department of Lung Development and Remodelling, Max Planck Institute for Heart and Lung Research, Bad Nauheim, Germany; and ²Department of Internal Medicine (Pulmonology), University of Giessen and Marburg Lung Center (UGMLC), member of the German Center for Lung Research (DZL), Giessen, Germany

Submitted 9 October 2020; accepted in final form 9 October 2020

INTRODUCTION

Lung health is central to three world health observances in the month of November 2020: World Pneumonia Day, World Prematurity Day, and World COPD Day (Fig. 1). Thus, all three observances will be highlighted in Editorials in the pages of the November issue of the *American Journal of Physiology-Lung Cellular and Molecular Physiology*, as well as at our social media facilities.

WORLD PNEUMONIA DAY

World Pneumonia Day was first celebrated on 2nd November 2009, to address concerns that childhood pneumonia did not attract levels of support that were commensurate with disease burden, despite causing more deaths than human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS), tuberculosis, and malaria combined. Since 2010, World Pneumonia Day has been celebrated every 12th November (3, 13, 14, 17), to raise awareness about the toll of pneumonia on the world's children (26), and to promote interventions to protect against (33), treat, and prevent the disease (21, 22), with particular emphasis placed on vaccine development (17, 46). World Pneumonia Day 2020 is particularly noteworthy, as this is the first World Pneumonia Day that will be observed during a global pneumonia pandemic. World Pneumonia Day is hosted by the Every Breath Counts coalition, a public-private partnership that supports national governments to work towards the aim of ending preventable child pneumonia deaths by 2030. The Every Breath Counts coalition also hosts the World Pneumonia Day digital presence, at <https://stopppneumonia.org/latest/world-pneumonia-day/>.

Pneumonia has been present throughout human history, with the symptoms of pneumonia (although possibly confused with pleurisy) having been described by Hippocrates of Kos in the year 400 BC (28). The first mention of pneumonia in the pages of the *American Journal of Physiology* may be found somewhat later, in an 1899 article by Dr. Albert Mathews who noted elevated levels of fibrinogen and fibrin in pneumonia (40). Since then, our *Journal* has had a long and rich history of publishing robust studies addressing the pathophysiology of pneumonia, numbering 565 articles since the year 2000. To observe World Pneumonia Day 2020, our *Journal* has commissioned three Editorials that may be found in our November 2020 issue. The

first of these Editorials (23), by Ms. Leith Greenslade, the Coordinator of the Every Breath Counts coalition, outlines the burden of pneumonia in the background of the ongoing coronavirus disease 2019 (COVID-19) pandemic, and within the framework of the 17 Sustainable Development Goals set out in the United Nations 2030 Agenda for Sustainable Development (43). In a second Editorial (56), Ms. Janti Soeripto, President and Chief Executive Officer of Save the Children, Dr. Eric Swedberg, Senior Director of Child Health at Save the Children, and Drs. Rashed Shah and Salim Sadruddin, Child Health Advisors at Save the Children, outline the continued need for advocacy, research and innovation, increased funding, and new partnerships, to address the global burden of childhood pneumonia. The need for further research is picked up upon in a third Editorial (62), penned by Dr. Wolfgang Kübler, our Editor who manages manuscripts submitted to our *Journal* on pneumonia, together with Dr. Martin Witzenthath, of Charité-Universitätsmedizin in Berlin, Germany. Drs. Kübler and Witzenthath highlight areas of pneumonia pathophysiology that demand intensified investigational research efforts, including taking a more host-centric view of pneumonia pathophysiology, and applying systems medicine approaches determined by composite -omics-based signatures that may better reflect disease complexity, facilitate patient stratification, and guide both therapy and monitoring of treatment responses.

Promoting the use of new and emerging technologies to study lung disease—including pneumonia—pathophysiology is a priority objective of our *Journal*, leading to the launch of a recent American Physiological Society cross-journal Call for Papers, “Deconstructing Organs: Single-Cell Analyses, Decellularized Organs, Organoids, and Organ-on-a-Chip Models” (2). The current COVID-19 pandemic has also highlighted the value of studying clinical disease in human patients to understand the pathophysiology of pneumonia and its sequelae. With this in mind, our *Journal* launched a Call for Papers in September 2020, “Lung Diseases in Reverse Translation: Bedside to the Bench” (53) to encourage the identification of features of clinical disease that demand further investigative bench studies. Remaining with the COVID-19 pandemic, a third currently open Call for Papers at our *Journal*, “The Pathophysiology of COVID-19 and SARS-CoV-2 Infection” (42), encourages the submission of manuscripts addressing any aspects of COVID-19 pathophysiology. Thus, our *Journal* welcomes the submission of manuscripts that advance our understanding of pneumonia pathophysiology, to drive improved medical management

Correspondence: R. E. Morty (rory.morty@mpi-bn.mpg.de).

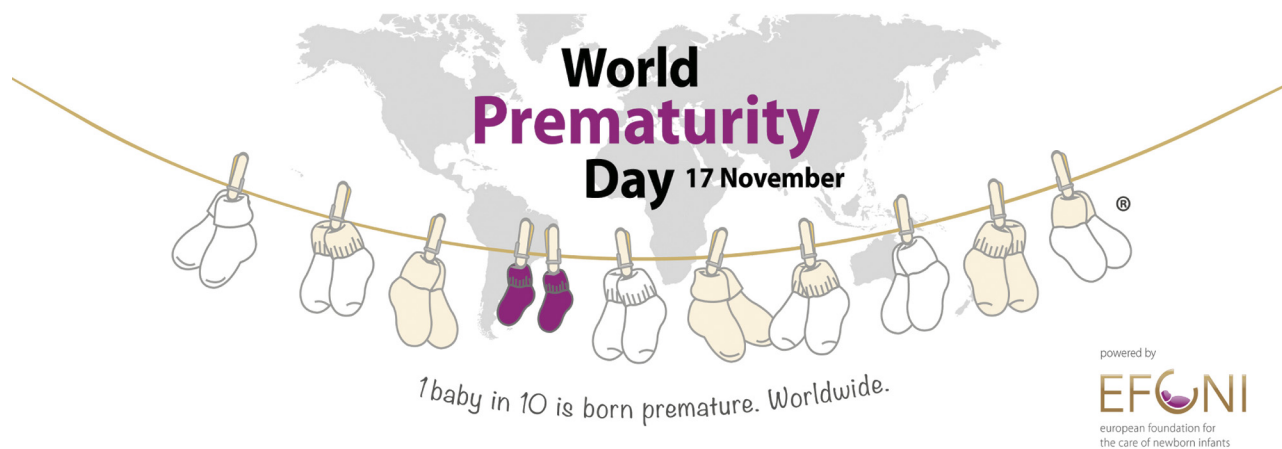
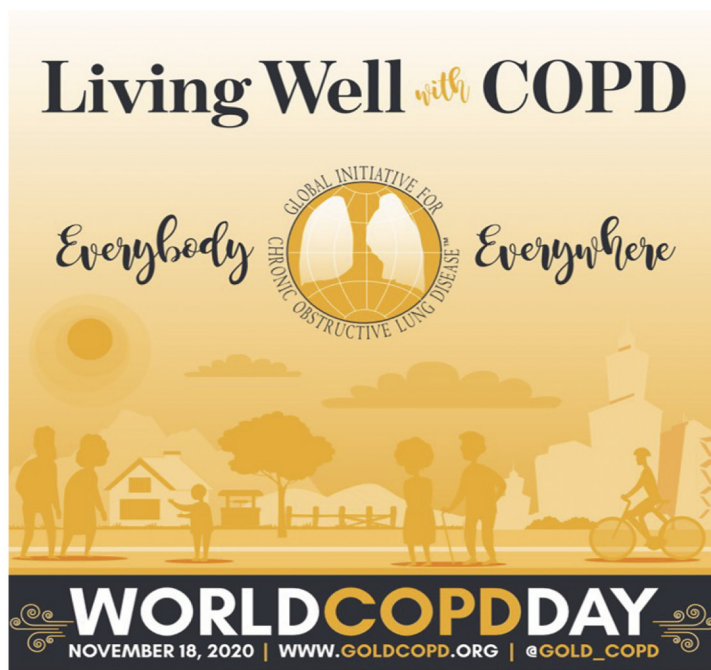
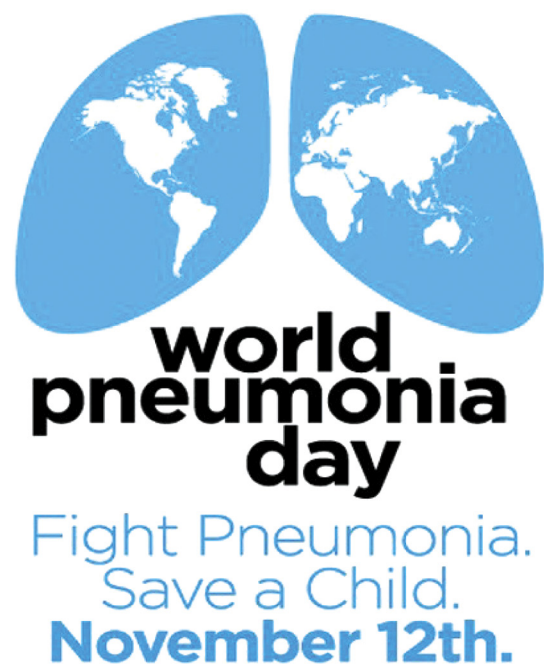


Fig. 1. Logos and publicity material for the observance of (counterclockwise from top, left) World Pneumonia Day, World Prematurity Day, and World COPD Day. The publicity material has been provided to the public for use to assist in the promotion of activities related to these three world health days by the Every Breath Count Coalition, the European Foundation for the Care of Newborn Infants, and the Global Initiative for Chronic Obstructive Lung Disease.

and clinical outcomes of patients affected with the “Captain of the men of death,” as pneumonia was called by Sir William Osler in 1901 (45), having borrowed the expression from John Bunyan’s reference to tuberculosis (9) in the 17th century.

WORLD PREMATURETY DAY

World Prematurity Day was first observed as International Prematurity Awareness Day on 17th November 2009, and has been observed thereafter as World Prematurity Day on 17th November every year since. World Prematurity Day is hosted by the European Foundation for the Care of Newborn Infants (EFCNI), in association with an ever-growing number of partner organizations that are committed to raising awareness about preterm birth, including the concerns of affected infants as well as those of their families (30, 34). One in every ten newborns is

born prematurely. For this reason, a socks line has become a symbol for World Prematurity Day (Fig. 1), where the small pair of purple socks—framed by nine pairs of full-size baby socks—symbolizes the one in ten infants who are born preterm worldwide. The EFCNI also hosts the World Prematurity Day digital presence, at <https://www.efcni.org/activities/campaigns/wpd/>, and each World Prematurity Day is observed with a variety of public awareness and advocacy events all around the globe.

The global burden of preterm birth is estimated at 15 million preterm births worldwide, every year (39), and complications arising from preterm birth are the leading cause of death in children younger than five years of age (36). In addition to the morbidity and mortality associated with preterm birth in the neonatal period (the first month of life), preterm birth may lead to continued poor health in infancy (the first year of life), and

even into adulthood. Indeed, preterm birth is proposed to be a key factor in the early-life origins of a growing number of adult lung disease (15, 16, 18, 48, 58).

The 2020 theme for World Prematurity Day is “Together for babies born too soon—Caring for the future.” This theme intends to emphasize the need for synergistic interaction between health-care professionals who manage preterm infants, scientists studying the physiological basis of the causes and consequences of preterm birth, parents and caregivers of preterm infants, and policy makers who formulate and implement measures to manage the burden of preterm birth (8, 20, 27, 29, 51, 61). To observe World Prematurity Day 2020, our *Journal* commissioned three Editorials, the first of which (63) is penned by Ms. Silke Mader, Chair of the Executive Board and co-founder of EFCNI; together with EFCNI Head of Scientific Affairs, Dr. Johanna Kostenzer, and EFCNI Senior Medical Director, Dr. Luc J. I. Zimmermann. Their Editorial addresses the management of bronchopulmonary dysplasia (BPD), the most common pulmonary complication of preterm birth that represents a significant challenge in the medical management of affected infants. A second Editorial (35), by Drs. Ornella Lincetto and Anshu Banerjee, of the Department of Maternal, Newborn, Child and Adolescent Health and Aging at the World Health Organization, broadly overviews how the survival and quality of life of preterm infants may be improved on a global scale. A third Editorial (25) by our Editor-in-Chief, Dr. Rory E. Morty, together with Ms. Miša Gunjak, reviews the contribution of our *Journal* to understanding the pathophysiology of pulmonary disease associated with preterm birth and its medical management; and further highlights some important research areas that warrant attention at the laboratory bench.

The frequency of preterm birth is increasing (27, 61), and this is not only an issue in the developing world, since, for example, 1 in 8 infants are born preterm in the United States, compared with a global average of 1 in 10 (20). Advances in the medical management of preterm birth has resulted in a trend in improved survival of very low birth weight preterm infants (54, 55). However, these very low birth weight infants present with the most severe disease (1, 5, 6, 31, 32). Therefore, severe BPD will remain an important cause of morbidity and mortality in a neonatal intensive care setting. Given the increased prevalence of preterm birth, and the burden of severe consequences of preterm birth, investigative studies that drive developments in preterm patient management have never been more urgent.

WORLD COPD DAY

World COPD Day is hosted by the Global Initiative for Chronic Obstructive Lung Disease (GOLD), and was launched in 2002 (60). The objective of World COPD Day is to raise awareness about chronic obstructive pulmonary disease (COPD) and to improve COPD care globally. To this end, each World COPD Day—celebrated annually on 18th November—is marked by a diverse range of online and public awareness activities, including, for example, free public spirometry testing (24, 37, 38, 50, 52, 59). In the United States, where COPD is the fourth leading cause of death (44, 47), these activities spread out over the month of November, which is National COPD Awareness Month in the United States (11, 12). National COPD Awareness Month is supported by the activities of the US COPD Coalition (<https://uscopdcoalition.org/>) and the COPD Foundation (<https://www.copdfoundation.org>), among other organizations. Furthermore,

the National Heart, Lung, and Blood Institute supports a national awareness and education campaign: “COPD Learn More Breathe Better” (10, 49). World COPD Day has a digital presence that is curated by GOLD, at <https://goldcopd.org/world-copd-day/>. The 2020 theme for World COPD Day is “Living Well with COPD—Everybody, Everywhere” (Fig. 1); which is intended to send a positive message to patients and providers that although COPD is without a cure, it remains possible for affected patients to actively live well.

The *American Journal of Physiology* has been publishing robust reports on the mechanisms of emphysema since 1913, starting with Dr. Arthur L. Tatum’s observation of emphysema in experimental rabbits with congenital hypothyroidism (57). World COPD Day 2020 is observed in the pages of our *Journal* with two Editorials. The first of these Editorials (4) is penned by Dr. Alvar Agustí, Chair of the GOLD Board of Directors, together with Dr. Claus Vogelmeier, Chair of the GOLD Science Committee, and Dr. Rosa Faner of the Centro de Investigación Biomédica en Red, Enfermedades Respiratorias in Barcelona, Spain. In their Editorial, Drs. Agustí, Vogelmeier, and Faner briefly review the evolution of thinking about COPD, from the Fletcher and Peto model of 1977 (19) into a new integrated pathogenic paradigm. In a second Editorial (7), Dr. Peter J. Barnes highlights the pressing need to better understand disease mechanisms, in particular of nonsmoking COPD, and the recognition of accelerated aging as a pathomechanism. Investigators working in the field of COPD are encouraged to submit manuscripts addressing any aspect of COPD to our *Journal*, which currently has two open Calls for Papers that directly address the pathophysiology of COPD: “Electronic Cigarettes: Not All Good News?”, and to specifically address the recognition of accelerated aging as a pathogenic factor, “Senescence in the Lung” (41).

The advent of COVID-19 and the severe viral pneumonia that the pandemic has brought with it, together with the increasing global burdens of both preterm birth and COPD, dramatically underscore the pressing need for accelerated efforts to understand the underlying pathophysiology of all three clinical entities. The collection of Editorials published in the November 2020 issue of the *American Journal of Physiology-Lung Cellular and Molecular Physiology* send a clear message: “the time is now” for us to accelerate the pace of investigative studies, so that we may guide advocacy, and develop new disease prevention and new disease management approaches for our affected pediatric and adult patients.

GRANTS

R.E.M. is supported by the Max Planck Society (MPI-HLR); the German Center for Lung Research (Deutsches Zentrum für Lungenforschung; DZL) (DZL-UGMLC), and the German Research Foundation (Deutsche Forschungsgemeinschaft; DFG) through EXC2026 [390649896], SFB1213 [268555672], KFO309 [284237345], Mo1789/1-1 [160966624] and Mo1789/4-1 [420759458].

DISCLOSURES

R.E.M. is the Editor-in-Chief of the *American Journal of Physiology-Lung Cellular and Molecular Physiology* and is compensated by the American Physiological Society for his services. F.C. has no conflicts of interest, financial or otherwise, to disclose.

AUTHOR CONTRIBUTIONS

F.C. prepared figure; F.C. and R.E.M. drafted manuscript; F.C. and R.E.M. edited and revised manuscript; F.C. and R.E.M. approved final version of manuscript.

REFERENCES

- Abman SH. Medical progress series: bronchopulmonary dysplasia at 50 years—an introduction. *J Pediatr* 188: 18–18.e1, 2017. doi:10.1016/j.jpeds.2017.07.004.
- Adams JC, Bell PD, Bodine SC, Brooks HL, Bunnett N, Joe B, Keehan KH, Kleyman TR, Marette A, Morty RE, Ramirez JM, Thomsen MB, Yates BJ, Zucker IH. An American Physiological Society cross-journal Call for Papers on “Deconstructing Organs: Single-Cell Analyses, Decellularized Organs, Organoids, and Organ-on-a-Chip Models”. *Am J Physiol Lung Cell Mol Physiol* 319: L266–L272, 2020. doi:10.1152/ajplung.00311.2020.
- Adnan MM, Yin J, Jackson AM, Tse ZTH, Liang H, Fu KW, Saroha N, Althouse BM, Fung IC. World Pneumonia Day 2011–2016: Twitter contents and retweets. *Int Health* 11: 297–305, 2019. doi:10.1093/inthealth/ihy087.
- Agustí A, Vogelmeier C, Faner R. COPD 2020: changes and challenges. *Am J Physiol Lung Cell Mol Physiol*. In press. doi:10.1152/ajplung.00429.2020.
- Alvira CM, Morty RE. Can we understand the pathobiology of bronchopulmonary dysplasia? *J Pediatr* 190: 27–37, 2017. doi:10.1016/j.jpeds.2017.08.041.
- Bancalari E, Jain D. Bronchopulmonary dysplasia: 50 years after the original description. *Neonatology* 115: 384–391, 2019. doi:10.1159/000497422.
- Barnes PJ. COPD 2020: new directions needed. *Am J Physiol Lung Cell Mol Physiol*. In press. doi:10.1152/ajplung.00473.2020.
- Bick D. Born too soon: the global issue of preterm birth. *Midwifery* 28: 341–342, 2012. doi:10.1016/j.midw.2012.06.010.
- Bunyan J. *The Life and Death of Mr. Badman*: Presented to the World in a Familiar Dialogue Between Mr. Wiseman and Mr. Attentive. London: Nath. Ponder at the Peacock in the Poultry, near the Church, 1680, 348 pp. <https://search.proquest.com/docview/2240872572/11719854> [9 October 2020].
- Carlin BW. Chronic obstructive pulmonary disease: “learn more, breathe better”. *J Cardiopulm Rehabil Prev* 27: 311–313, 2007. doi:10.1097/01.HCR.0000291300.55270.0d.
- Centers for Disease Control and Prevention (CDC). Announcement: National Chronic Obstructive Pulmonary Disease Awareness Month—November 2016. *MMWR Morb Mortal Wkly Rep* 65: 1278, 2016. doi:10.15585/mmwr.mm6545a8.
- Centers for Disease Control and Prevention (CDC). Announcement: National Chronic Obstructive Pulmonary Disease Awareness Month—November 2017. *MMWR Morb Mortal Wkly Rep* 66: 1236, 2017. doi:10.15585/mmwr.mm6644a8.
- Centers for Disease Control and Prevention (CDC). Announcement: World Pneumonia Day—November 12, 2016. *MMWR Morb Mortal Wkly Rep* 65: 1241, 2016. doi:10.15585/mmwr.mm6544a10.
- Centers for Disease Control and Prevention (CDC). World Pneumonia Day—November 12, 2015. *MMWR Morb Mortal Wkly Rep* 64: 1227, 2015. doi:10.15585/mmwr.mm6443a6.
- Crump C. An overview of adult health outcomes after preterm birth. *Early Hum Dev* 150: 105187, 2020. doi:10.1016/j.earlhumdev.2020.105187.
- Crump C, Sundquist K, Sundquist J. Adult outcomes of preterm birth. *Prev Med* 91: 400–401, 2016. doi:10.1016/j.ypmed.2016.08.024.
- Dagan R, de Quadros CA, Garau J, Klugman KP, Khuri-Bulos N, Levine O, Sow S, Yang Y. Marking November 12, 2010—World Pneumonia Day: where are we, where are vaccines? *Hum Vaccin* 6: 922–925, 2010. doi:10.4161/hv.6.11.13599.
- Dance A. Survival of the littlest: the long-term impacts of being born extremely early. *Nature* 582: 20–23, 2020. doi:10.1038/d41586-020-01517-z.
- Fletcher C, Peto R. The natural history of chronic airflow obstruction. *BMJ* 1: 1645–1648, 1977. doi:10.1136/bmj.1.6077.1645.
- Frey HA, Klebanoff MA. The epidemiology, etiology, and costs of preterm birth. *Semin Fetal Neonatal Med* 21: 68–73, 2016. doi:10.1016/j.siny.2015.12.011.
- Ginsburg AS, Izadnegahdar R, Klugman KP. World Pneumonia Day 2016: pulse oximetry and oxygen. *Lancet Glob Health* 4: e893–e894, 2016. doi:10.1016/S2214-109X(16)30296-0.
- Ginsburg AS, Sadruddin S, Klugman KP. Innovations in pneumonia diagnosis and treatment: a call to action on World Pneumonia Day, 2013. *Lancet Glob Health* 1: e326–e327, 2013. doi:10.1016/S2214-109X(13)70117-7.
- Greenslade L. World Pneumonia Day during a global pneumonia pandemic: 12 November 2020. *Am J Physiol Lung Cell Mol Physiol*. In press. doi:10.1152/ajplung.00462.2020.
- Grzetic-Romcevic T, Devic B, Sonc S. Spirometric testing on World COPD Day. *Int J Chron Obstruct Pulmon Dis* 6: 141–146, 2011. doi:10.2147/COPD.S16605.
- Gunjak M, Morty RE. World Prematurity Day 2020: “Together for babies born too soon—Caring for the future”. *Am J Physiol Lung Cell Mol Physiol*. In press. doi:10.1152/ajplung.00482.2020.
- Hajjeh R, Whitney CG. Call to action on world pneumonia day. *Emerg Infect Dis* 18: 1898–1899, 2012. doi:10.3201/eid1811.121217.
- Harrison MS, Goldenberg RL. Global burden of prematurity. *Semin Fetal Neonatal Med* 21: 74–79, 2016. doi:10.1016/j.siny.2015.12.007.
- Hippocrates of Kos. On regimen in acute diseases [Translated by Francis Adams]. <http://classics.mit.edu/Hippocrates/acutedis.html>, 400 BC [Accessed 9 October 2020].
- Hodek JM, von der Schulenburg JM, Mittendorf T. Measuring economic consequences of preterm birth—Methodological recommendations for the evaluation of personal burden on children and their caregivers. *Health Econ Rev* 1: 6, 2011. doi:10.1186/2191-1991-1-6.
- Howson CP, Kinney MV, McDougall L, Lawn JE; Born Too Soon Preterm Birth Action Group. Born too soon: preterm birth matters. *Reprod Health* 10, Suppl 1: S1, 2013. doi:10.1186/1742-4755-10-S1-S1.
- Jobe AH. The new bronchopulmonary dysplasia. *Curr Opin Pediatr* 23: 167–172, 2011. doi:10.1097/MOP.0b013e3283423e6b.
- Jobe AH. What is BPD in 2012 and what will BPD become? *Early Hum Dev* 88, Suppl 2: S27–S28, 2012. doi:10.1016/S0378-3782(12)70009-9.
- Kim SA, Kilgore PE. Advocacy for pneumonia prevention in Korea: a multi-dimensional program organised around World Pneumonia Day. *Pneumonia (Nathan)* 2: 26–32, 2013. doi:10.15172/pneu.2013.2/245.
- Kinney MV, Lawn JE, Howson CP, Belizan J. 15 Million preterm births annually: what has changed this year? *Reprod Health* 9: 28, 2012. doi:10.1186/1742-4755-9-28.
- Lincetto O, Banerjee A. World Prematurity Day: improving survival and quality of life for millions of babies born preterm around the world. *Am J Physiol Lung Cell Mol Physiol*. In press. doi:10.1152/ajplung.00479.2020.
- Liu L, Oza S, Hogan D, Chu Y, Perin J, Zhu J, Lawn JE, Cousens S, Mathers C, Black RE. Global, regional, and national causes of under-5 mortality in 2000–15: an updated systematic analysis with implications for the Sustainable Development Goals. *Lancet* 388: 3027–3035, 2016. doi:10.1016/S0140-6736(16)31593-8.
- Lundgren FL, Cabral MM, Clímaco DC, de Macedo LG, Coelho MA, Dias AL. Determination of the efficacy of FEV6 as a surrogate for FVC in the diagnostic screening for chronic obstructive pulmonary disease through the comparison of FEV1/FVC and FEV1/FEV6 ratios. *J Bras Pneumol* 33: 148–151, 2007. doi:10.1590/S1806-37132007000200008.
- Mannino DM. World COPD Day 2008: where have we been and where are we headed? *Int J Tuberc Lung Dis* 12: 1224–1225, 2008.
- March of Dimes, Partnership for Maternal Newborn and Child Health, Save the Children, and World Health Organization. *Born Too Soon: The Global Action Report on Preterm Birth*, edited by Howson CP, Kinney MV, Lawn JE. Geneva: World Health Organization, 2012. <https://www.who.int/pmnch/media/news/2012/201204%5Fborntoosoon-report.pdf> [9 October 2020].
- Mathews A. Origin of fibrinogen. *J Boston Soc Med Sci* 3: 320–322, 1899. doi:10.1152/ajplegacy.1899.3.2.53.
- Morty RE, Prakash YS. Senescence in the lung: is this getting old? *Am J Physiol Lung Cell Mol Physiol* 316: L822–L825, 2019. doi:10.1152/ajplung.00081.2019.
- Morty RE, Ziebuhr J. Call for Papers: The Pathophysiology of COVID-19 and SARS-CoV-2 Infection. *Am J Physiol Lung Cell Mol Physiol* 318: L1016–L1019, 2020. doi:10.1152/ajplung.00136.2020.
- Naidoo R, Fisher B. Reset Sustainable Development Goals for a pandemic world. *Nature* 583: 198–201, 2020. doi:10.1038/d41586-020-01999-x.
- National Institutes of Health (NIH) and Centers for Disease Control and Prevention (CDC). COPD National Action Plan (Online). <https://www.nhlbi.nih.gov/sites/default/files/publications/COPD-NationalActionPlanAug2019.pdf>. 2017 [9 October 2020].

45. Osler W. *The Principles and Practice of Medicine*. New York: D. Appleton and Co, 1901 (Online). <https://babel.hathitrust.org/cgi/pt?id=hvd.hc37e6&view=1up&seq=11> [9 October 2020].
46. Otczyk DC, Cripps AW. Delivering vaccines for the prevention of pneumonia - programmatic and financial issues. *Pneumonia (Nathan)* 2: 16–25, 2013. doi:10.15172/pneu.2013.2/244.
47. Postow L. Critical challenges and compelling questions for chronic obstructive pulmonary disease. Moving the field forward: a National Heart, Lung, and Blood Institute perspective. *Ann Am Thorac Soc* 15, Suppl 4: S282–S284, 2018. doi:10.1513/AnnalsATS.201808-587MG.
48. Prior E, Modi N. Adult outcomes after preterm birth. *Postgrad Med J* 96: 619–622, 2020. doi:10.1136/postgradmedj-2020-137707.
49. Punturieri A, Croxton TL, Weinmann GG, Kiley JP. Chronic obstructive pulmonary disease: a view from the NHLBI. *Am J Respir Crit Care Med* 178: 441–443, 2008. doi:10.1164/rccm.200807-1128OE.
50. Rajgopal R, Migone C, O'Connor M, McDonnell T, Peelo D, McCormack S. A survey of lung health and COPD awareness amongst participants at a mobile spirometry clinic. *Ir Med J* 108: 246–248, 2015.
51. Saugstad OD. Reducing global neonatal mortality is possible. *Neonatology* 99: 250–257, 2011. doi:10.1159/000320332.
52. Schermer T, Eaton T, Pauwels R, van Weel C. Spirometry in primary care: is it good enough to face demands like World COPD Day? *Eur Respir J* 22: 725–727, 2003. doi:10.1183/09031936.03.00075203.
53. Shimoda LA, Morty RE. Call for Papers on “Lung Diseases in Reverse Translation: Bedside to the Bench”. *Am J Physiol Lung Cell Mol Physiol*. In press. doi:10.1152/ajplung.00448.2020.
54. Stoll BJ, Hansen NI, Bell EF, Shankaran S, Laptook AR, Walsh MC, Hale EC, Newman NS, Schibler K, Carlo WA, Kennedy KA, Poindexter BB, Finer NN, Ehrenkranz RA, Duara S, Sánchez PJ, O’Shea TM, Goldberg RN, Van Meurs KP, Faix RG, Phelps DL, Frantz ID III, Watterberg KL, Saha S, Das A, Higgins RD; Eunice Kennedy Shriver National Institute of Child Health and Human Development Neonatal Research Network. Neonatal outcomes of extremely preterm infants from the NICHD Neonatal Research Network. *Pediatrics* 126: 443–456, 2010. doi:10.1542/peds.2009-2959.
55. Stoll BJ, Hansen NI, Bell EF, Walsh MC, Carlo WA, Shankaran S, Laptook AR, Sánchez PJ, Van Meurs KP, Wyckoff M, Das A, Hale EC, Ball MB, Newman NS, Schibler K, Poindexter BB, Kennedy KA, Cotten CM, Watterberg KL, D’Angio CT, DeMauro SB, Truog WE, Devaskar U, Higgins RD; Eunice Kennedy Shriver National Institute of Child Health and Human Development Neonatal Research Network. Trends in care practices, morbidity, and mortality of extremely preterm neonates, 1993–2012. *JAMA* 314: 1039–1051, 2015. doi:10.1001/jama.2015.10244.
56. Swedberg E, Shah R, Sadruddin S, Soeripto J. Saving young children from forgotten killer: pneumonia. *Am J Physiol Lung Cell Mol Physiol*. In press. doi:10.1152/ajplung.00471.2020.
57. Tatum AL. Studies in experimental cretinism, with suggestions as to a biological test for thyroid secretion. *Am J Physiol* 31: 23–24, 1913. doi:doi:10.1152/ajplegacy.1913.31.5.xi.
58. Ubags NDJ, Alejandro Alcazar MA, Kallapur SG, Knapp S, Lanone S, Lloyd CM, Morty RE, Pattaroni C, Reynaert NL, Rottier RJ, Smits HH, de Steenhuijsen Pitsers WAA, Strickland DH, Collins JJP. Early origins of lung disease: towards an interdisciplinary approach. *Eur Respir Rev* 29: 200191, 2020. doi:10.1183/16000617.0191-2020.
59. van den Berg JW, van der Molen T, Kerstjens HA, Quanjer PH. Kanttekeningen bij screenend longfunctieonderzoek voor detectie van COPD [Comments on screening spirometry for detection of COPD]. *Ned Tijdschr Geneesk* 151: 1557–1560, 2007.
60. Vestbo J, Lange P, Hansen EF. Kronisk obstruktiv lungesygdom. COPD-verdensdag 2002 [Chronic obstructive pulmonary disease. World COPD Day 2002]. *Ugeskr Laeger* 164: 5510, 2002.
61. Walani SR. Global burden of preterm birth. *Int J Gynaecol Obstet* 150: 31–33, 2020. doi:10.1002/ijgo.13195.
62. Witzernath M, Kuebler WM. Pneumonia in the face of COVID-19. *Am J Physiol Lung Cell Mol Physiol*. In press. doi:10.1152/ajplung.00447.2020.
63. Zimmermann LJI, Kostenzer J, Mader S. Tackling bronchopulmonary dysplasia to improve preterm health: a call for family-centered care at World Prematurity Day 2020. *Am J Physiol Lung Cell Mol Physiol*. In press. doi:10.1152/ajplung.00415.2020.