EDITORIAL

World Pneumonia Day during a global pneumonia pandemic: 12 November 2020

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This year, for the first time, World Pneumonia Day will be held during a global pneumonia pandemic. By 12 November, coronavirus disease 2019 (COVID-19) is expected to cause 1.3 million deaths and by 31 December, 1.9 million deaths (9). It remains to be seen how these deaths will be classified. If they are counted as lower respiratory infections by the Global Burden of Disease, COVID-19 could increase all-cause pneumonia mortality by 70%, bringing the annual death toll to 4.5 million. No other infection causes this burden of death (10).

COVID-19 has woken up the world to the dangers of lower respiratory infections and to the threat they pose to population health and economic progress, and to the achievement of both national health and economic goals including most of the Sustainable Development Goals (12). Health systems are collapsing under the pressure, poverty is rising, and in many settings peace and security are threatened. Even though COVID-19 deaths disproportionately affect adults, up to 2.3 million additional children could die this year due to health service disruptions, 35% from pneumonia and newborn sepsis, according to recent modeled estimates (15).

The pandemic has revealed just how unprepared most low and middle-income countries were to deal with wide-scale, rapidly increasing outbreaks of viral pneumonia. Decades of underinvestment in preventing, diagnosing, and treating pneumonia has left most of these countries with health systems that do not have the right equipment or the trained healthcare workers to effectively diagnose and treat respiratory infections, or to install and maintain respiratory care equipment. Prior to the pandemic, no national government had a specific strategy to control respiratory infections, and global support was limited. Pneumonia attracts just 6% of international development assistance for infectious diseases (11), and 3% of infectious disease research spending, despite causing more than 25% of all infectious deaths (2).

This sustained lack of investment has left vast populations unaware of the dangers of pneumonia, how to recognize the signs and where to seek appropriate healthcare (1). Globally, almost one in three (31%) children with suspected pneumonia are not taken for care, and many more are exposed to pneumonia due to low vaccination coverage, high rates of malnutrition, and air pollution. For example, 52% of children under five years of age are not protected with three doses of the pneumococcal conjugate vaccine (PCV) (19), 7% are wasted (18), and 93% are exposed to unsafe levels of air pollution (16). Wasting and air pollution are the two leading risk factors for pneumonia death according to the Global Burden of Disease.

Further, there is still no rapid diagnostic test for pneumonia (8), and studies have revealed access to pulse oximetry (13), medical oxygen (7), and the many therapies associated with it is alarmingly low in many low and middle-income countries (6). Despite concerns over the inappropriate use of antibiotics among children, studies still reveal wide gaps in some countries and the recommended child-friendly antibiotic, amoxicillin dispersible tablets, is still unavailable in many places (5).

COVID-19 has created the conditions to address some of these glaring gaps. Low and middle-income country governments have developed plans to control the virus, and are identifying at-risk populations, educating communities, equipping health facilities, and training staff. International development agencies, including the World Health Organization (WHO), United Nations Children’s Fund (UNICEF), and the World Bank, high-income governments, and private foundations continue to provide personal protective equipment (PPE), diagnostic tests, and respiratory care equipment and training to strengthen these efforts (17). The push to raise $US35 billion to accelerate the development of new vaccines, diagnostic tools, and therapies by the Access to COVID-19 Tools (ACT) Accelerator should also help, providing that low and middle-income countries receive a fair share of the support.

If done properly, this massive effort to control the pandemic should contribute to reducing all-cause respiratory infections and deaths among both children and adults for the long term. But governments will need to make sure that COVID-19 technologies are redeployed and integrated into the health system once the pandemic subsides. The pulse oximeters provided for COVID-19 should eventually be available at all primary healthcare centers and the oxygen concentrators, Continuous Positive Airway Pressure (CPAP)/Bilevel Positive Airway Pressure (BiPAP) machines and ventilators should find their way to the general, maternal, and pediatric wards of hospitals. Pneumonia prevention, diagnosis, and treatment should be an item in national health budgets, along with vaccines, human immunodeficiency (HIV)/acquired immunodeficiency syndrome (AIDS) and malaria, and global health donors will need to activate the multilateral health agencies they fund (e.g., Global Fund, Gavi, Unitaid, etc.) to help low and middle-income countries fill gaps in pneumonia control, where needed.

There will also need to be a shift in the way governments, global health agencies and their donors position pneumonia. COVID-19 has demonstrated that a life course approach will be most effective at achieving pneumonia control, with a dual-focus on vulnerable populations, especially the very young and the very old, and those with underlying conditions. Pneumonia deaths, unlike other leading infectious killers, follow a “U” shape across the life course concentrating in children under five years and adults over 70 years of age. Strategies that are effective at controlling pneumonia among both the very young and the very old (e.g., improving vaccination and diets and reducing smoking and exposure to second-hand smoke) should become health priorities.
The next decade is critical. Countries should emerge from the pandemic with specific national strategies to control pneumonia (3), including a timeline for achieving pneumonia vaccine coverage, child nutrition, and clean air targets, and closing the gaps in diagnosis and treatment with pulse oximetry, oxygen, and antibiotics, where appropriate (20). Global health actors must invest in the development of a rapid diagnostic test for pneumonia that gives fast, accurate results at the point-of-care, explore targeted antibiotic campaigns with new tools such as azithromycin (14), and invest in more affordable, energy-efficient, oxygen solutions (4), including by partnering with companies and multilateral development banks who can finance the large oxygen infrastructure investments required. New, more effective tools to prevent child wasting and reduce air pollution will need to emerge. If this is done well, every country will win twice, by reducing vulnerability to another respiratory pandemic and by making rapid progress towards achieving the Sustainable Development Goals for health they promised to achieve by 2030.

DISCLOSURES

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AUTHOR CONTRIBUTIONS

L.G. drafted manuscript; edited and revised manuscript; and approved final version of manuscript.

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