

## Success stories of public health in 2016

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### Abstract

There are 28 success stories of 2016 among the numerous ones that we have collectively achieved. They include WHO's fight against Communicable as well as Non-Communicable diseases including Zika virus infection, Leprosy, Yellow Fever, Cancer and Diabetes as well as antimicrobial resistance among other "health related states and events".

**Keywords:** Success, public health, 2016

## 1. Introduction

### 1.1 Background

The focus of a public health intervention is to prevent and manage diseases, injuries and other health conditions through surveillance of cases and the promotion of healthy behaviors, communities and environments. Public health is credited with adding 25 years to the life expectancy of people in the United States in this century. There have been 'Great Public Health Achievements' in the 20<sup>th</sup> Century. The 20<sup>th</sup> Century was created to remind us of how far we've come, how we got here, and exactly what public health is: the active protection of our nation's health and safety, credible information to enhance health decisions, and partnerships with local minorities and organizations to promote good health. A lot of good work has been done by Public Health officials that the general public is hardly aware of, since they only get an opportunity to come in contact with clinicians in hospitals and clinics and rarely get to meet doctors who work in the field (the submerged part of the disease burden).

## 2. Discussion

Here is a brief description of each of them

1. WHO condemns the attacks on five hospitals that took place in Syria on 13–15 November 2016, including three hospitals in Western Rural Aleppo and two hospitals in Idleb. At least two people were reportedly killed as a result of the attacks and 19 people were wounded, including six medical staff.
2. Copenhagen, 18 May 2016 : The overall risk of a Zika virus outbreak across the WHO European Region was low to moderate during late spring and summer, according to a new risk assessment published today by the WHO Regional Office for Europe. While this risk varies across the Region, it is higher in countries where Aedes mosquitoes are present.
3. 21 APRIL 2016, Geneva : During World Immunization Week 2016, held 24-30 April, WHO highlighted recent

gains in immunization coverage, and outlines further steps countries can take to "Close the Immunization Gap" and meet global vaccination targets by 2020. "Last year immunization led to some notable wins in the fight against polio, rubella and maternal and neonatal tetanus," says Dr. Margaret Chan, WHO Director-General. "But they were isolated wins. Polio was eliminated in 1 country, tetanus in 3, and rubella in 1 geographical region. The challenge now is to make gains like this the norm."

Immunization averts 2 to 3 million deaths annually; however, an additional 1.5 million deaths could be avoided if global vaccination coverage improves. Today, an estimated 18.7 million infants – nearly 1 in 5 children – worldwide are still missing routine immunizations for preventable diseases, such as diphtheria, pertussis and tetanus.

India joined Cambodia, Madagascar and Mauritania in eliminating maternal and neonatal tetanus. It also improved coverage of the diphtheria-tetanus-pertussis-containing vaccines (DTP3) to 83%. Despite challenges imposed by Ebola, including for routine immunization coverage, the African Region became one-step closer to being certified polio-free with the removal of Nigeria from the list of polio-endemic countries. As recently as 2012, the country accounted for more than half of all polio cases worldwide. Now, only two countries – Afghanistan and Pakistan – remain polio endemic.

The Region of the Americas became the first to eliminate rubella, a contagious viral disease that can cause multiple birth defects as well as fetal death when contracted by women during pregnancy. Additionally, 5 years after the introduction of an affordable conjugate meningitis A vaccine, immunization of more than 230 million people has led to the control and near elimination of deadly meningitis A disease in the African "meningitis belt" that

- stretches from Senegal to Ethiopia. New vaccines against dengue, Ebola and malaria have the potential to be game-changers in immunization in the near future. For example, through a “ring-vaccination” strategy, the Ebola vaccine is being given to anyone who has come into contact with a person infected with Ebola, as well as contacts of theirs. And, the new polio vaccination regimen, with the withdrawal of type 2 oral polio vaccine in 155 countries this month, represents a critical step towards a polio-free world.
4. World Cancer Day was organized by the Union for International Cancer Control (UICC) and celebrated each year on 4 February, is an opportunity to rally the international community to end the injustice of preventable suffering from cancer. With the recent adoption of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs), a bold yet achievable target of ensuring healthy lives and promoting well-being for all at all ages has been set. To reach the SDG target of reducing premature mortality from non-communicable diseases including cancer by one-third by 2030, governments, NGOs, and all cancer advocates must be mobilized to collective action. The theme of World Cancer Day 2016 is “We can, I can” and highlights the need for multi-sectoral participation. WHO has provided guidance on how to address the global cancer burden through comprehensive cancer control, founded on global coordination and strong health systems.
  5. 1 FEBRUARY 2016 | GENEVA, WHO is calling on governments to rate movies that portray tobacco use in a bid to prevent children and adolescents from starting to smoke cigarettes and use other forms of tobacco. Movies showing use of tobacco products have enticed millions of young people worldwide to start smoking, according to the new WHO "Smoke-free movies: from evidence to action", the third edition since its launch in 2009.
  6. Copenhagen, 15 March 2016 : A new pan-European WHO survey of schoolchildren reveals that the proportion of 15-year-olds who first smoked at the age of 13 has fallen significantly since 2010. The report goes on, however, to warn that while 80% of respondents report generally high rates of life satisfaction, differences between genders and socioeconomic status are adversely affecting many young people's health, well-being and lifestyle choices at a critical stage in their development. The Health Behaviour in School-aged Children (HBSC) study, which is updated every four years, reveals that the proportion of 15-year-old Europeans who reported having a first cigarette at the age of 13 or younger fell from 24% to 17% between 2009/2010 when the last survey was conducted and 2013/2014. The reduction reported among girls (22% to 13%) was larger than that among boys (26% to 22%), and the data show no consistent association with family affluence, suggesting that smoking behaviour is only partially determined by socioeconomic factors.
  7. 15 MARCH 2016, GENEVA : An estimated 12.6 million people died as a result of living or working in an unhealthy environment in 2012 – nearly 1 in 4 of total global deaths, according to new estimates from WHO. Environmental risk factors, such as air, water and soil pollution, chemical exposures, climate change, and ultraviolet radiation, contribute to more than 100 diseases and injuries. The second edition of the report, “Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks”, reveals that since the report was first published a decade ago, deaths due to non-communicable diseases (NCDs), mostly attributable to air pollution (including exposure to second-hand tobacco smoke), amount to as much as 8.2 million of these deaths. NCDs, such as stroke, heart disease, cancers and chronic respiratory disease, now amount to nearly two-thirds of the total deaths caused by unhealthy environments. At the same time, deaths from infectious diseases, such as diarrhoea and malaria, often related to poor water, sanitation and waste management have declined. Increases in access to safe water and sanitation have been key contributors to this decline, alongside better access to immunization, insecticide-treated mosquito nets and essential medicines.
  8. 1 March 2016 : Nearly 32 million children across the world live with disabling hearing loss. A new WHO report, "Childhood hearing loss: act now, here's how", suggests that 60% of this can be prevented. It also highlights that if hearing loss is detected early enough, and if children receive the care they need, they can reach their full potential. “A child who struggles to hear may also struggle to learn to speak, underachieve at school and end up socially isolated,” says Dr. Etienne Krug, Director of the WHO Department for Management of Non-communicable Diseases, Disability, Violence and Injury Prevention. Most childhood hearing loss can be prevented. There are many causes of childhood hearing loss. It is estimated that 40% is attributable to genetic causes; 31% to infections such as measles, mumps, rubella and meningitis; and 17% to complications at birth, including prematurity, low birth weight and neonatal jaundice. In addition, an estimated 4% results from expectant mothers and new-borns unknowingly using medicines that is harmful to hearing. To prevent childhood hearing loss, immunizing children against diseases and regulating certain medicines and noise levels are vital.
  9. 25 November 2016 : Four months have passed without a single case of yellow fever related to the outbreak in Angola and the Democratic Republic of the Congo, thanks to the joint response activities of national health authorities, local health workers, WHO and partners. The outbreak, which was first detected in Angola in December 2015, had caused 962 confirmed cases of yellow fever across the two countries (884 in Angola 78 in DRC) by 16 November 2016, with more than 7300 suspected cases. The last confirmed case reported in Angola was on 23 June and DRC's last case was on 12 July. More than 41 000 volunteers and 8000 vaccination teams were involved in the mass immunization campaigns. The vaccines used came from a global stockpile co-managed by Médecins Sans Frontières (MSF), International Federation of the Red Cross and Red Crescent Societies (IFRC), UNICEF and WHO. In the first 6 months of 2016

- alone, the partners delivered more than 19 million doses of the vaccine – three times the 6 million doses usually put aside for a possible outbreak. Gavi, the Vaccine Alliance financed a significant proportion of the vaccines.
- "This is the result of a gargantuan effort," said Dr. Margaret Lamunu, Yellow Fever Incident Manager at WHO HQ. "30 million people have been vaccinated across the 2 countries – can you imagine the sheer logistics of getting vaccines out to that many people?"
10. Investing in treatment for depression and anxiety leads to fourfold return. Depression and anxiety disorders cost the global economy US\$1 trillion each year; countries and development partners to discuss way forward during World Bank-WHO events. A joint news release: WHO & World Bank: 13 APRIL, 2016, WASHINGTON DC, USA - Every US\$ 1 invested in scaling up treatment for depression and anxiety leads to a return of US\$ 4 in better health and ability to work, according to a new WHO-led study which estimates, for the first time, both the health and economic benefits of investing in treatment of the most common forms of mental illness globally. The study, published today in "The Lancet Psychiatry", provides a strong argument for greater investment in mental health services in countries of all income levels.
  11. New Delhi, 20 April 2016 : WHO today launched a new global strategy for leprosy calling for stronger commitments and accelerated efforts to stop disease transmission and end associated discrimination and stigma, to achieve a world free of leprosy. "The new global strategy is guided by the principles of initiating action, ensuring accountability and promoting inclusivity. These principles must be embedded in all aspects of leprosy control efforts. A strategy can only be as good as its implementation," Dr. Poonam Khetrpal Singh, Regional Director, WHO South-East Asia Region, said at the launch of the global strategy for 2016-2020 'Accelerating towards a leprosy-free-world' in New Delhi. The strategy aims to, by 2020, reduce to zero the number of children diagnosed with leprosy and related physical deformities; reduce the rate of newly-diagnosed leprosy patients with visible deformities to less than one per million; and ensure that all legislation that allows for discrimination on the basis of leprosy is overturned. The key interventions needed to achieve the targets include– detecting cases early before visible disabilities occur, with a special focus on children as a way to reduce disabilities and reduce transmission; targeting detection among higher risk groups through campaigns in highly endemic areas or communities; and improving health care coverage and access for marginalized population. Screening all close contacts of leprosy affected persons, promoting a shorter and uniform treatment regime; and incorporating specific interventions against stigma and discrimination are the other strategic interventions that endemic countries need to include in their national plans to meet the new targets.
  12. World Health Day 2016: WHO calls for global action to halt rise in and improve care for people with diabetes. The first WHO Global report on diabetes: 422 million adults live with diabetes, mainly in developing countries. A news release on 6 APRIL 2016, GENEVA says that the number of people living with diabetes has almost quadrupled since 1980 to 422 million adults, with most living in developing countries. Factors driving this dramatic rise include overweight and obesity, WHO announced ahead of World Health Day. WHO is marking its annual World Health Day (7 April), which celebrates the Organization's founding in 1948, by issuing a call for action on diabetes. In its first "Global report on diabetes", WHO highlights the need to step up prevention and treatment of the disease.
  13. WHO certifies Sri Lanka malaria-free. Colombo, 5 September 2016: In a remarkable public health achievement, Sri Lanka was today certified by WHO on having eliminated malaria, a life-threatening disease which long affected the island country. On 17 NOVEMBER 2016, GENEVA, the world's first malaria vaccine will be rolled out in pilot projects in sub-Saharan Africa, WHO confirmed today. Funding is now secured for the initial phase of the programme and vaccinations are due to begin in 2018. The vaccine, known as RTS,S, acts against *P. falciparum*, the most deadly malaria parasite globally, and the most prevalent in Africa. Advanced clinical trials have shown RTS,S to provide partial protection against malaria in young children.
  14. Life expectancy increased by 5 years since 2000, but health inequalities persist. A news release on 19 MAY 2016, GENEVA says dramatic gains in life expectancy have been made globally since 2000, but major inequalities persist within and among countries, according to this year's "World Health Statistics: Monitoring Health for the SDGs". Life expectancy increased by 5 years between 2000 and 2015, the fastest increase since the 1960s. Those gains reverse declines during the 1990s, when life expectancy fell in Africa because of the AIDS epidemic and in Eastern Europe following the collapse of the Soviet Union. The increase was greatest in the African Region of WHO where life expectancy increased by 9.4 years to 60 years, driven mainly by improvements in child survival, progress in malaria control and expanded access to antiretrovirals for treatment of HIV. Global life expectancy for children born in 2015 was 71.4 years (73.8 years for females and 69.1 years for males), but an individual child's outlook depends on where he or she is born. The report shows that newborns in 29 countries – all of them high-income -- have an average life expectancy of 80 years or more, while newborns in 22 others – all of them in sub-Saharan Africa -- have life expectancy of less than 60 years. With an average lifespan of 86.8 years, women in Japan can expect to live the longest. Switzerland enjoys the longest average survival for men, at 81.3 years. People in Sierra Leone have the world's lowest life-expectancy for both sexes: 50.8 years for women and 49.3 years for men. Healthy life expectancy, a measure of the number of years of good health that a newborn in 2015 can expect, stands at 63.1 years globally (64.6 years for females and 61.5 years for males).
  15. The "World Health Statistics 2016" provides a comprehensive overview of the latest annual data in

- relation to the health-related targets in the SDGs, illustrating the scale of the challenge. Every year:
- 303 000 women die due to complications of pregnancy and childbirth;
  - 5.9 million children die before their fifth birthday;
  - 2 million people are newly infected with HIV, and there are 9.6 million new TB cases and 214 million malaria cases;
  - 1.7 billion people need treatment for neglected tropical diseases;
  - More than 10 million people die before the age of 70 due to cardiovascular diseases and cancer;
  - 800 000 people commit suicide;
  - 1.25 million people die from road traffic injuries;
  - 4.3 million people die due to air pollution caused by cooking fuels;
  - 3 million people die due to outdoor pollution; and
  - 475 000 people are murdered, 80% of them men. Addressing those challenges will not be achieved without tackling the risk factors that contribute to disease. Around the world today:
  - billion people smoke tobacco;
  - 156 million children under 5 are stunted, and 42 million children under 5 are overweight;
  - 1.8 billion people drink contaminated water, and 946 million people defecate in the open; and
  - 3.1 billion people rely primarily on polluting fuels for cooking.
16. 30 September 2016 | Geneva — The World Health Organization (WHO) has released data for 2015 showing that a record 979 million people benefited from large-scale treatment of at least one neglected tropical disease in 2015 alone. This unprecedented achievement may be the first time that so many people have been treated globally as part of a public health intervention in one single year. “This is a monumental public health achievement. Reaching 979 million people spread out across the globe in one single year involves intensive planning and coordination” said Dr. Dirk Engels, Director, WHO Department of Control of Neglected Tropical Diseases.
  17. WHO South-East Asia Region eliminates Maternal and Neonatal Tetanus, In New Delhi, 19 May 2016 – In a major public health feat, WHO South-East Asia Region has eliminated maternal and neonatal tetanus with all districts across the 11 countries having reduced the cases to less one than per 1 000 live births. Maternal and neonatal tetanus elimination (MNTE) for the Region became official after a team of experts today successfully validated the remaining four provinces of Indonesia, the last pocket in the Region to achieve the target; after India reached the MNTE goal last year.
  18. Thailand is first country in Asia to eliminate mother-to-child transmission of HIV and syphilis. In New Delhi/Bangkok, 7 June, 2016: Thailand today received validation from WHO for having eliminated mother-to-child transmission of HIV and syphilis, becoming the first country in Asia and the Pacific region and also the first with a large HIV epidemic to ensure an AIDS-free generation.
- This is a remarkable achievement for a country where thousands of people live with HIV. Thailand’s unwavering commitment to core public health principles has made elimination of mother-to-child transmission of HIV and syphilis a reality, a critical step for rolling back the HIV epidemic. Thailand has demonstrated to the world that HIV can be defeated,” Dr. Poonam Khetrpal Singh, Regional Director, WHO South-East Asia Region.
19. Freetown, 7 November 2015, Today, the World Health Organization declares that Ebola virus transmission has been stopped in Sierra Leone. Forty-two days, that is two Ebola virus incubation cycles, have now passed since the last person confirmed to have Ebola virus disease had a second negative blood test. Earlier, it was a success story in Liberia and Guinea.
  20. New Delhi, 3 June 2016: In a significant progress against neglected tropical diseases in WHO South-East Asia Region, Maldives and Sri Lanka have eliminated lymphatic filariasis, a disease that was crippling people for decades, forcing them to lead a life of stigma, discrimination and poverty. “The achievement by Maldives and Sri Lanka demonstrates the resolve of these countries and the Region as a whole to eliminate all neglected tropical diseases, which have no reason to continue and mar the lives of people,” Dr. Poonam Khetrpal Singh, Regional Director, WHO South-East Asia Region, said. On 05 October 2016 | Geneva – Data recently published by the World Health Organization (WHO) show that more than 556 million people worldwide were treated for lymphatic filariasis in 2015, compared with 538 million in 2014.
  21. July 2016, Cairo : To commemorate World Hepatitis Day this year, the World Health Organization (WHO) is calling on decision-makers and people affected by the disease to work together to put hepatitis treatment within the reach of all people living with chronic hepatitis C. The newly available treatment known as direct-acting antivirals is safe, easy to administer and can cure over 95% of people with hepatitis C within 12–24 weeks. However, its price is high both for individuals to afford and for governments to make available.
  22. 29 JANUARY 2016 - A major new Series on breastfeeding, published in “The Lancet”, finds that despite strong health and economic benefits from breastfeeding, few children are exclusively breastfed until six months, as recommended by WHO. Globally, an estimated 1 in 3 infants under six months are exclusively breastfed – a rate that has not improved in two decades. Breastfeeding has substantial benefits for women and children in rich and poor countries alike, and now the evidence is stronger than ever. New WHO estimates published in The Lancet reveal that increasing breastfeeding to near-universal levels could save more than 820 000 lives every year, the majority being children under six months. In addition, nearly half of all diarrhoeal diseases and one-third of all respiratory infections in children in low- and middle-income countries could be prevented with increased rates of breastfeeding.
  23. It is estimated that every year, worldwide, 303 000 women die during pregnancy and childbirth, 2.7 million babies die during the first 28 days of life and 2.6 million babies are stillborn. WHO launches new tools to help countries

address stillbirths, maternal and neonatal deaths. Counting and reviewing every birth and death is key to preventing future tragedies

24. Ministerial Declaration on “Health, Environment and Climate Change” On the occasion of the 22nd session of the Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC COP 22) in Marrakech, on 15 November 2016, we the Ministers and high-level representatives, acknowledge that almost one quarter of the global burden of disease, and approximately 12.6 million deaths each year, are attributable to modifiable environmental factors.
25. 21 SEPTEMBER 2016 | NEW YORK - World leaders today signaled an unprecedented level of attention to curb the spread of infections that are resistant to antimicrobial medicines.  
Antimicrobial resistance (AMR) happens when bacteria, viruses, parasites, and fungi develop resistance against medicines that were previously able to cure them. For the first time, Heads of State committed to taking a broad, coordinated approach to address the root causes of AMR across multiple sectors, especially human health, animal health and agriculture. This is only the fourth time a health issue has been taken up by the UN General Assembly (the others were HIV, noncommunicable diseases, and Ebola). The high-level meeting was convened by the President of the 71st session of the UN General Assembly, H.E. Peter Thomson.
26. Global TB Report. : The TB epidemic is larger than previously estimated, reflecting new surveillance and survey data from India. However, the number of TB deaths and the TB incidence rate continue to fall globally and in India. In 2015, there were an estimated 10.4 million new (incident) TB cases worldwide, of which 5.9 million (56%) were among men, 3.5 million (34%) among women and 1.0 million (10%) among children. People living with HIV accounted for 1.2 million (11%) of all new TB cases. Six countries accounted for 60% of the new cases: India, Indonesia, China, Nigeria, Pakistan and South Africa.1 Global progress depends on major advances in TB prevention and care in these countries. Worldwide, the rate of decline in TB incidence remained at only 1.5% from 2014 to 2015. This needs to accelerate to a 4–5% annual decline by 2020 to reach the first milestones of the End TB Strategy.
27. Global Malaria Report: Global targets, milestones and indicators The targets of the Global Technical Strategy for Malaria 2016–2030 (GTS) are, by 2030: to reduce malaria incidence and mortality rates globally by at least 90% compared with 2015 levels; to eliminate malaria from at least 35 countries in which malaria was transmitted in 2015; and to prevent re-establishment of malaria in all countries that are malaria free. For malaria, Target 3.3 of the Sustainable Development Goals (SDGs) – to end the epidemics of AIDS, TB, malaria and neglected tropical diseases (NTDs) by 2030 – is interpreted by WHO as the attainment of the GTS targets.
28. 12 December 2016, Geneva: To mark Universal Health Coverage Day, WHO today launched a new data portal to track progress towards universal health coverage (UHC) around the world. The

portal shows where countries need to improve access to services, and where they need to improve information. The Data portal features the latest data on access to health services globally and in each of WHO’s 194 Member States, along with information about equity of access. Next year WHO will add data on the impact that paying for health services has on household finances.

### 3. Conclusions

Health is dependent on a complex interplay among an array of genetic, environmental, and lifestyle factors. As a result, public health is built on expertise and skills from many areas, including biology, environmental and earth science, sociology, psychology, government, medicine, statistics, communication, and many others. Public health is about interventions that *prevent* disease from occurring. As a result, the benefits tend to be less obvious when compared to life-saving medical procedures designed to treat the problem. Prevention of disease both *prolongs life* and improves the *quality of life*. In a sense, public health is the heart disease that never developed, the epidemic that didn't happen, the outbreak of foodborne illness that never occurred, the child that would have developed asthma, but didn't. Despite these achievements, we continue to tackle many more public health priorities. Public health priorities aim to improve health (health improvement), protect health (health protection), or improve public health services (healthcare public health)

In conclusion, we would argue that public health professionals have made a major contribution to many of the public health successes of the last 30 years. We continue to face new challenges, not least emerging infections such as SARS and the ever present threat of an influenzae pandemic. As a profession, public health should be ready to identify new challenges, work with others to raise the profile of public health in the national consciousness, and to act as advocates for the full range of public health action as required. From the early days of sanitary reform and slum clearance, there has always been opposition to public health action in one form or another. We need to recognise that the new public health challenges may bring us into conflict with different groups, which will include those with powerful vested interests. Building a robust consensus from across the political spectrum to support public health action where needed will be a key skill for the public health advocates of tomorrow.

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