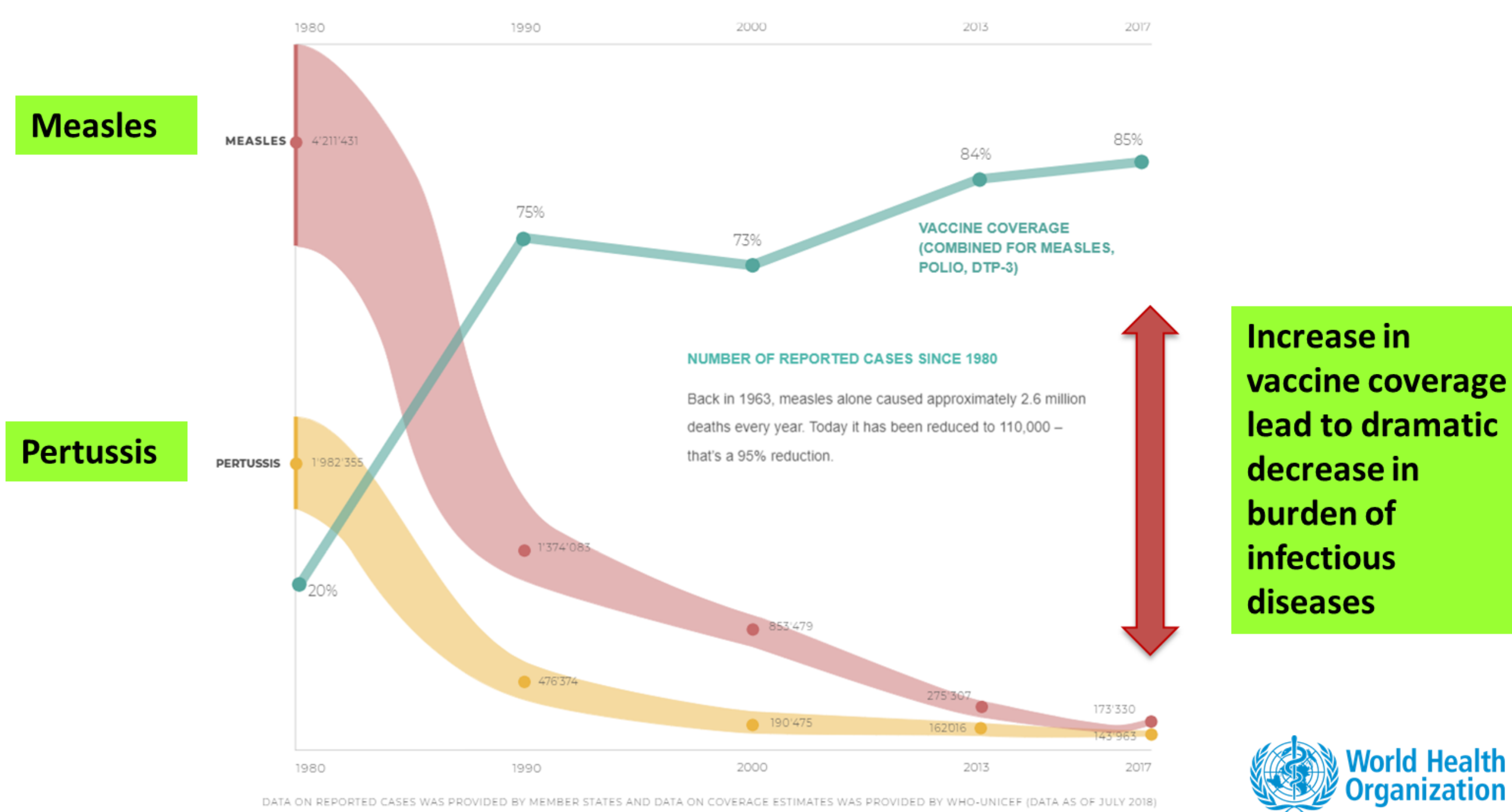


Background

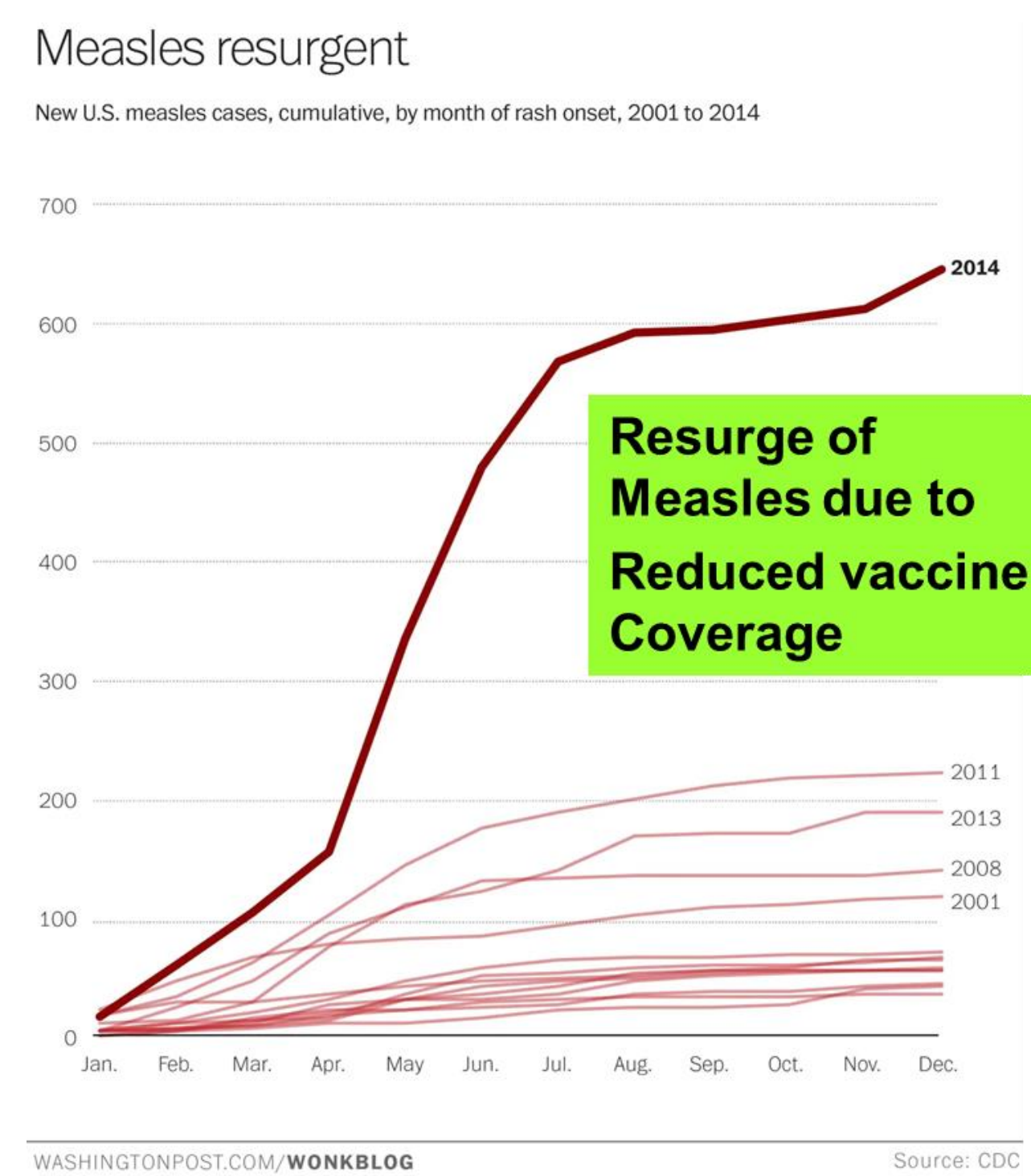
Vaccines are the most cost-effective intervention in public health as they prevent the spread of highly contagious infectious diseases (1). Because of vaccine implementation and high coverage, Measles was eradicated in 2000 (1), however the recent reappearance of measles in the United States, Europe and globally is alarming (2).

Vaccine Coverage Reduces Burden of Disease



Measles Resurgence due to Reduced Vaccine Coverage

The resurgence of Measles, Diphtheria and Mumps is due to a reduction in vaccine coverage and herd immunity. Vaccine hesitant parents, antivaxxers, and fake news on vaccines are driving the surge in those infectious diseases. The World Health Organization issued the Global Vaccine and Immunization Action Plan to reiterate the importance of vaccine implementation and coverage for several vaccine-preventable infectious diseases in the world.



Why do we need vaccines?

- Vaccines reduce disease burden in communities, save lives and money
- Vaccines protect individuals against infection and prevent symptomatic illness
- To date, 17 infectious diseases are prevented by vaccine administration
- Vaccine coverage impact public health

Vaccine coverage induces community protection (Herd Immunity)



Methods

Methods: Literature search for vaccine coverage rates, resurgence of vaccine preventable infectious diseases and risks of mass gatherings.

Author declares no conflict of interest

Results



Qatar is preparing for the upcoming FIFA World Cup 2022 therefore maintaining high vaccine coverage is critical in preventing infectious diseases spreading during such mass gathering.



Qatar tops region in providing coverage of vaccines
April 24 2019 01:24 AM

Qatar Vaccine Coverage is 95% which is one of the highest in the world

- Seventeen infectious diseases are currently vaccine-preventable.
- The cost-effectiveness of vaccine is documented as it is estimated for each dollar spent on vaccines, 10 dollars are saved in disease treatment (1,3).
- A drop in vaccine coverage rates to under 90% lead to the resurgence of measles (2).
- Vaccine coverage rates in Qatar is currently at 95% which is one of the highest in the world.
- Qatar must maintain this high coverage rate to prevent any measles outbreaks during mass gatherings.
- The planned World Cup event will take place from November 21 till December 18 2022, which is the peak for seasonal influenza.
- FIFA2022 mass gathering event, Qatar should encourage residents and visitors to be vaccinated not just against measles and seasonal influenza, but also hepatitis and meningitis.

Qatar National Immunization Program



Ministry of Public Health

مركز الأمراض الإنتقالية
Communicable Disease Center

مؤسسة حمد الطبية
A Member of Hamad Medical Corporation

Qatar Immunization Schedule

Schedule/Vaccines	At Birth	2 MONTHS	4 MONTHS	6 MONTHS	12 MONTHS	15 MONTHS	18 MONTHS	2 YEARS	4 - 6 YEARS	12 - 16 YEARS
BCG	Yes									
HEPATITIS B	Yes									
HEXA		Yes	Yes							
PENTA		Yes	Yes							
TETRA				Yes						
DTap					Yes					
Idap								Yes		
ROTAVIRUS		Yes	Yes							
OPV		Yes	Yes	Yes						
PCV13		Yes	Yes	Yes	Yes (Menactra)					
MHR					Yes		Yes			
VARICELLA					Yes				Yes	
HEPATITIS A					Yes					
INFLUENZA										Yes
MENINGOCOCCAL ACW135										Yes

مؤسسة حمد الطبية
Hamad Medical Corporation
HEALTH - EDUCATION - RESEARCH
صحة - تعليم - بحوث

Conclusion: Maintaining 95% vaccine coverage rate is critical for preventing the resurgence of vaccine-preventable infectious diseases during the World Cup mass gathering in Qatar.

References

- Doherty M, Buchy P, Standaert B, Giaquinto C, Prado-Cohrs D. Vaccine impact: benefits for human health. *Vaccine*. , 34 (52), 6707-6714. 2016 Dec 20
- Bester JC. Measles and measles vaccination: A review. *JAMA Pediatr*. , 170 (12), 1209-1215, 2016
- Hardt K, Bonanni P, King S, Santos JI, El-Hodhod M, Zimet GD, Preiss S. Vaccine strategies: Optimizing outcomes. *Vaccine*, 34 (52), 6691-6699 2016