



Disparity between influenza vaccination recommendations and vaccine distribution/uptake

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IFPMA Influenza Vaccine Supply (IFPMA IVS) International Task Force



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International Task Force

- Established in February 2002 (under the IFPMA Biologicals and Vaccines Committee)
- Represented by 18 research-based vaccine manufacturers from around the world
- IVS members produce most of the world's influenza vaccines and conduct the R&D necessary to develop and produce safe, effective, high-quality human vaccines to protect against seasonal and pandemic influenza

Presentation Outline



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Definition: Non-Communicable Diseases also known as 'underlying medical conditions'

1. Flu is an important disease with individual/ societal impact
2. The Link Between Non-Communicable Diseases (NCDs) and Influenza
3. Benefits of Influenza Vaccination
3. Global Vaccine Distribution Data
4. Conclusions



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1. Flu is an important disease with individual/ societal impact

The Burden of Influenza



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- WHO estimates influenza impacts 5 – 10% of adults and 20 – 30% of children
- WHO estimates influenza is responsible for 3 – 5 million cases of severe illness and 250,000 – 500,000 deaths annually
- At the World Health Assembly in 2003 it was noted influenza could be responsible for up to 1 million fatalities each year
- In Europe, estimates suggest influenza may be responsible for 40,000 – 220,000 deaths annually
- US data show influenza has been associated with approximately 226,000 hospitalizations and 36,000 deaths annually

Sources:

WHO. Fact sheet 211, 2009; CDC. MMWR 2010;59(RR8)1-62; WHO. Wkly Epidemiol Rec 2005;33:279-287; Resolution of the World Health Assembly. WHA56.19. 28 May 2003; Commission of the European Communities. COM(2009);353:final/2

World Health Organization recommended priority groups for seasonal influenza vaccination



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SAGE recommendations for influenza vaccination (2012)

- 5 recommended priority groups for countries using or considering introduction of seasonal influenza vaccination.
 - Pregnant women highest priority group.
 - 4 other priority groups (in no order of priority) are:
 - Health-care workers;
 - Children under 5 (particularly 6-23 months);
 - Elderly;
 - Underlying health conditions.



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2. Underlying Medical conditions:

The link between influenza and Non-Communicable Diseases (NCDs)

The Burden of Non-Communicable Diseases (NCDs)



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- NCDs include 4 chronic diseases particularly at risk of complications with Influenza:
 - 17 million deaths from cardiovascular disease (including 6 million deaths from stroke)
 - 4.2 million deaths from lung diseases (incl. asthma and COPD)
 - 1.3 million deaths from diabetes
- In South-East Asia, 55% of deaths in 2008 were due to NCDs. NCD deaths are expected to increase by 21% over the next decade.

Sources:

WHO Global status report on noncommunicable diseases, 2010, Description of the global burden of NCDs, their risk factors and determinants;
WHO Media Center, 2013, The top 10 causes of death. Fact sheet no 310;
WHO Fact file. 10 facts on noncommunicable diseases; WHO Non Communicable Diseases in South-East Asia Region (2011)

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Influenza causes a huge preventable disease burden in patients with NCDs



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- Influenza increases the risk of **hospitalization, long term exacerbation** of the conditions of chronic diseases patients and **death**.
 - People with **diabetes** are **3 times** more likely to be **hospitalized** than others
 - Risk of **heart attack** is **5 times** more likely in the 3 days following the diagnosis of **systemic respiratory infection**
 - Risk of **stroke** is **3 times** more likely in the days following the diagnosis of systemic respiratory infection
 - Highest mortality risk is in people with **lung diseases**. Case fatality from influenza A in COPD can be 30% or more. Case-fatality rate in healthy persons is only 0,01 %

Sources:

CDC Diabetes Public Health Resource. Protect yourself from influenza;

Smeeth L, Thomas SL, Hall AJ, Hubbard R, Farrington P, Vallance P. Risk of myocardial infarction and stroke after acute infection or vaccination. New England Journal of Medicine 2004;351:2611–18;

Plans-Rubio P. Prevention and control of Influenza in persons with Chronic obstructive pulmonary disease. Int J Chron Obstruct Pulmon Dis. 2007; 2(1) :41-53



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3. Benefits of Influenza Vaccination

Annual public health benefits of seasonal influenza vaccination: a European estimate



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- A Vaccines Europe study aimed at assessing the public health benefits and economic importance of influenza vaccination in the 5 WHO-recommended vaccination target groups in Europe:
 - In current situation: with current vaccine coverage rate (VCR) and currently observed vaccine effectiveness and efficacy
 - At the recommended 75% vaccination coverage level
- This public health and economic impact was estimated in number of influenza cases, hospitalizations and deaths that could be prevented in addition to corresponding costs avoided

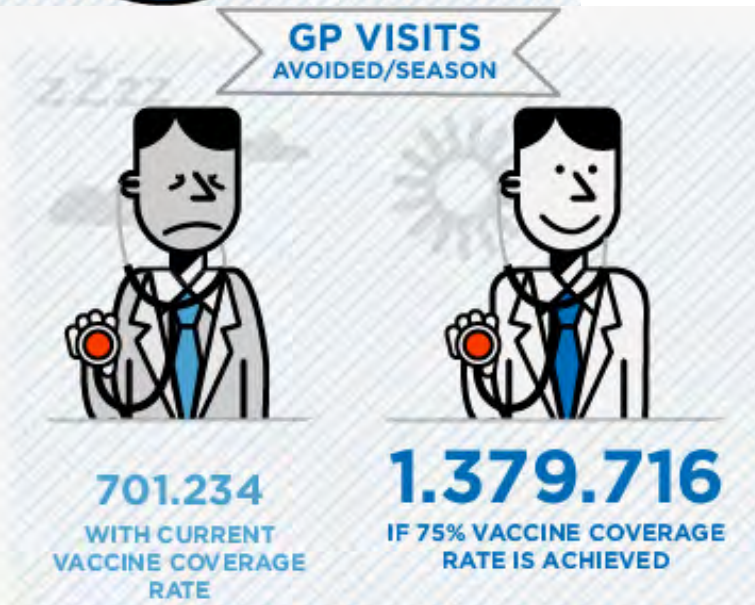
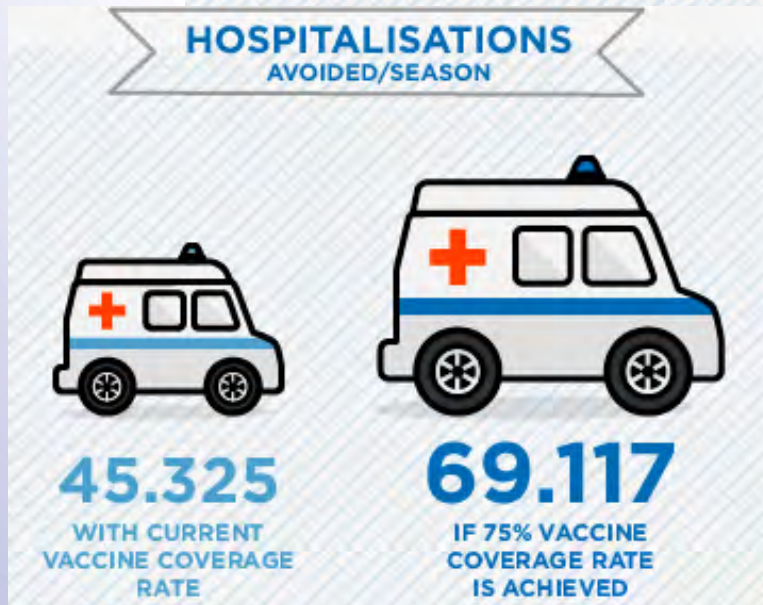
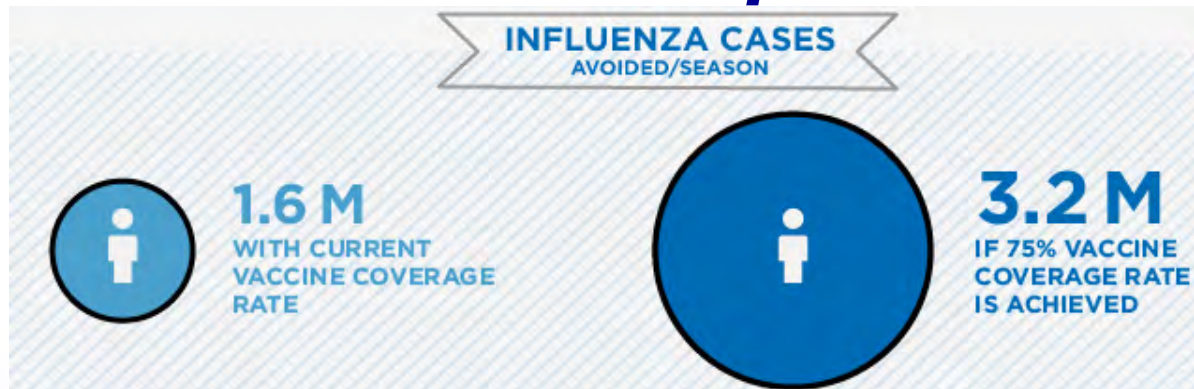


Current and potential influenza vaccine benefits in Europe



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Benefits of influenza vaccination in USA (2005-2011)



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- Cases averted (all ages) / season (million, 95CI)
1.1 – 5.0
(0.6-1.7) (2.9-8.6)
Total in 6 seasons: 13,599,931 (8,001,525 – 22,806,782)
- Hospitalizations averted (all ages) / season
7.700 - 40.400
(3.700 -14.100) (20.800 – 73.000)
Total in 6 seasons: 112,875 (65,036 – 191,540)
- Medically attended cases averted (all ages)

Total in 6 seasons: 5,818,175 (3,426,742 – 10,104,621)

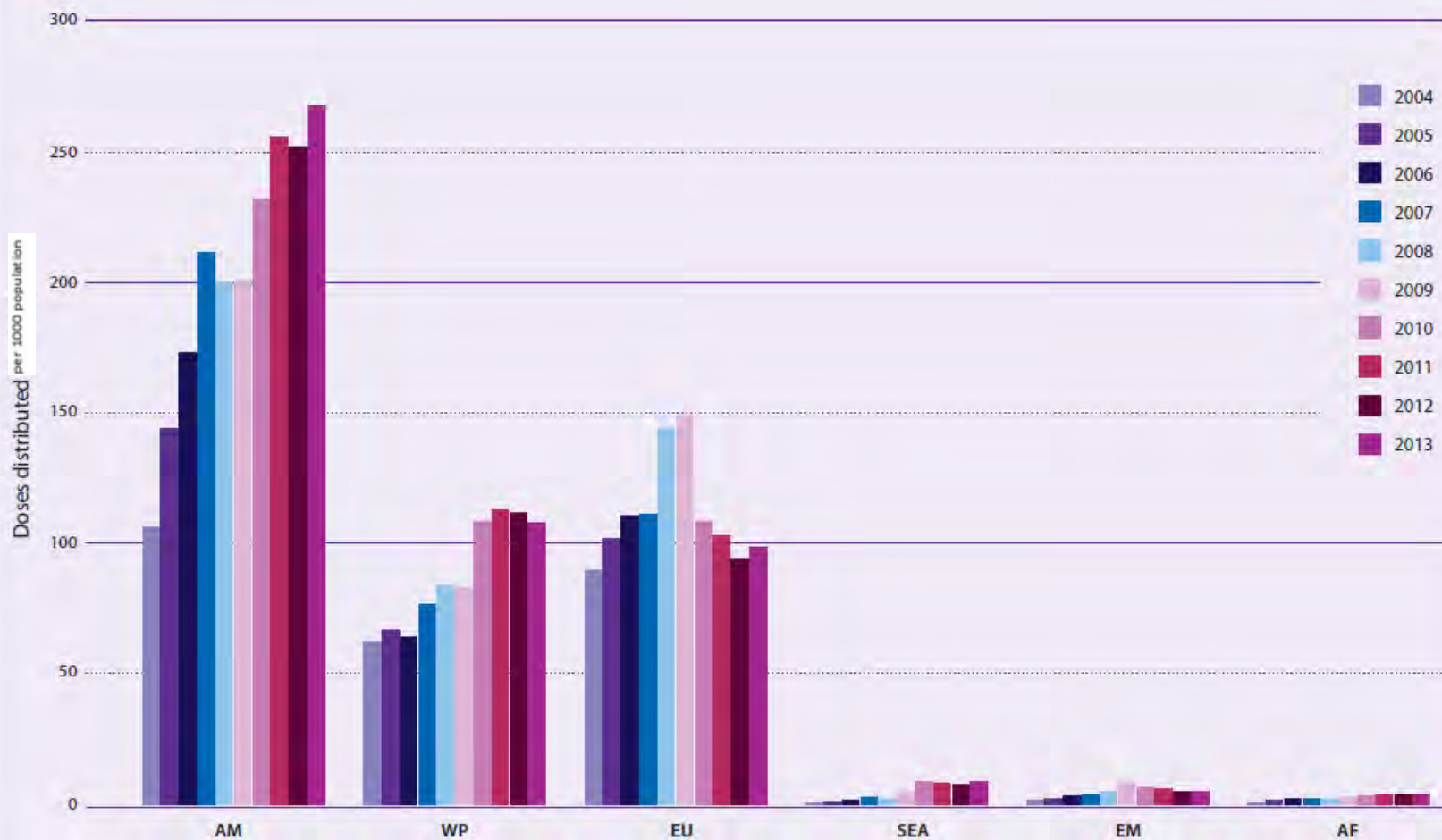


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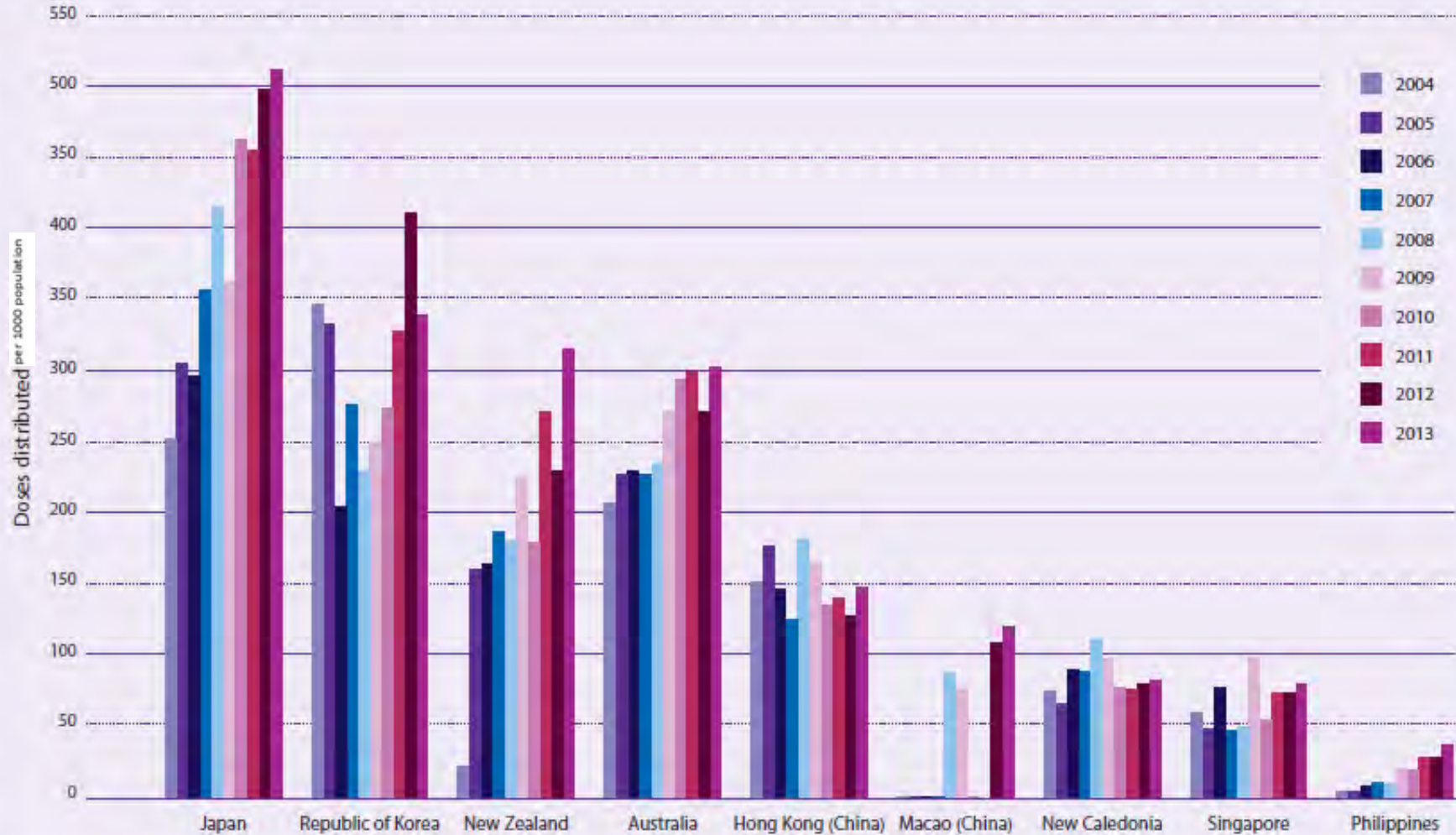
4. Global Vaccine Distribution Data

Distribution of seasonal influenza vaccine by WHO region 2004 - 2013

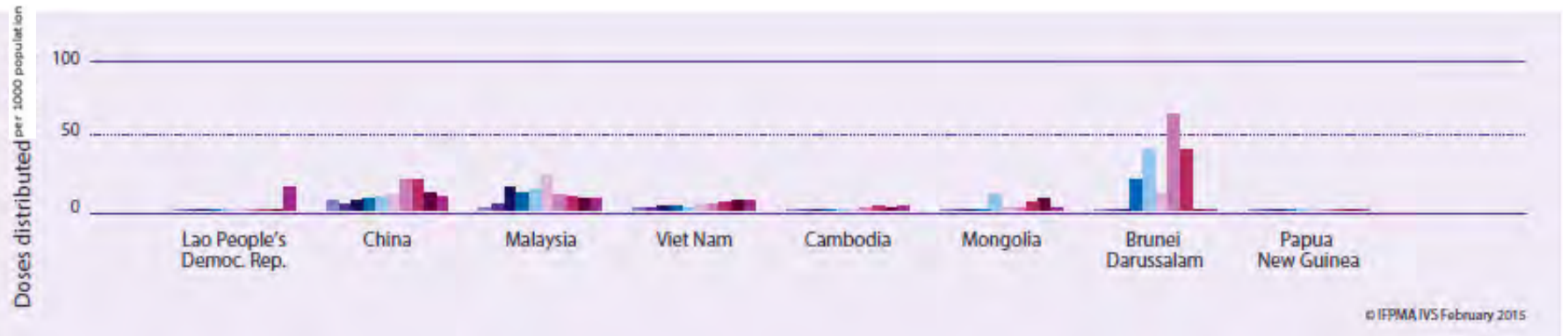


AF = Africa, SEA = South East Asian, EM = Eastern Mediterranean,
WP = Western Pacific, EU = European, AM = Americas

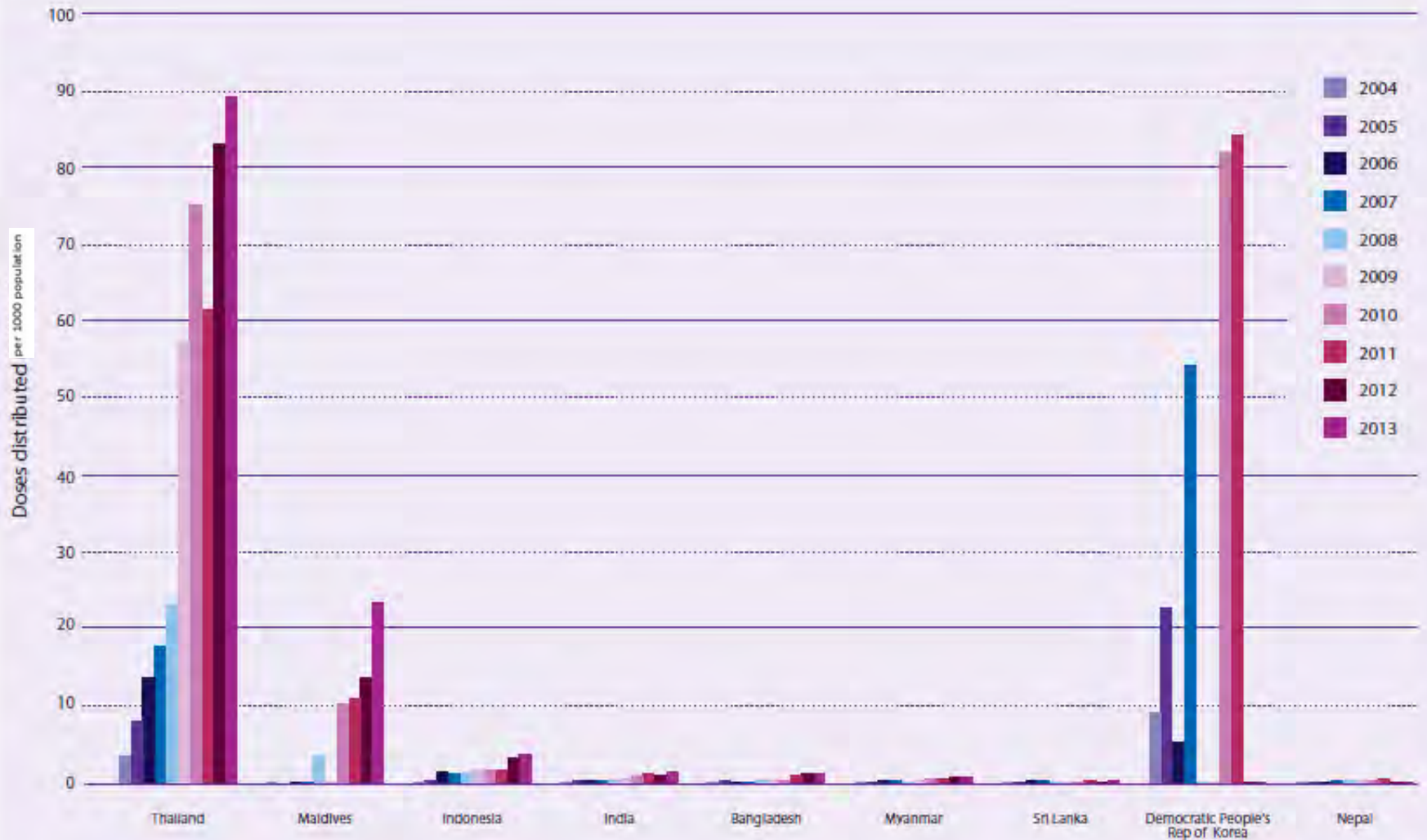
Distribution of seasonal influenza vaccine Western Pacific region 2004 - 2013



Distribution of seasonal influenza vaccine Western Pacific region 2004 - 2013



Distribution of seasonal influenza vaccine South East Asian region 2004 - 2013



Seasonal influenza vaccine production capacity by WHO Region



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Seasonal trivalent influenza vaccine production by WHO Region in 2011

WHO Region	Number of countries with production capacity in 2011	Additional countries with production capacity planned after 2011	Estimated production capacity of NH vaccine (doses in millions)	Actual production of NH vaccine 2011/2012 season (doses in millions)	Estimated production capacity of SH vaccine (doses in millions)	Actual production of SH vaccine 2011 season (doses in millions)
AFR	0	1	0	0	0	0
AMR	2	2	282	131	96	28
EMR	0	2	0	0	0	0
EUR	13	2	514	252	177	54
SEAR	2	1	9	0.044	19	0
WPR	4	1	264	151	60	4
Total	21	9	1069	534	352	86



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5. Conclusions



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Main Conclusions

- Influenza is a worldwide preventable disease but is not being adequately prevented
- Influenza vaccines are safe and effective in reducing influenza-associated health burden
- WHO and many National Health Authorities recommend influenza immunizations based on evidence
- Despite that, seasonal influenza vaccine distribution rates vary widely across regions
- There is a mismatch between the estimated and actual influenza vaccines production capacities around the world
- Reducing global seasonal vaccine production to current demand levels would endanger an adequate pandemic vaccine supply



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Take-away message

How to close the gap between the abundant availability of safe and beneficial influenza vaccines and low immunization rates of patients?



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Thank you!

