

Seasonal influenza vaccination and pandemic preparedness planning

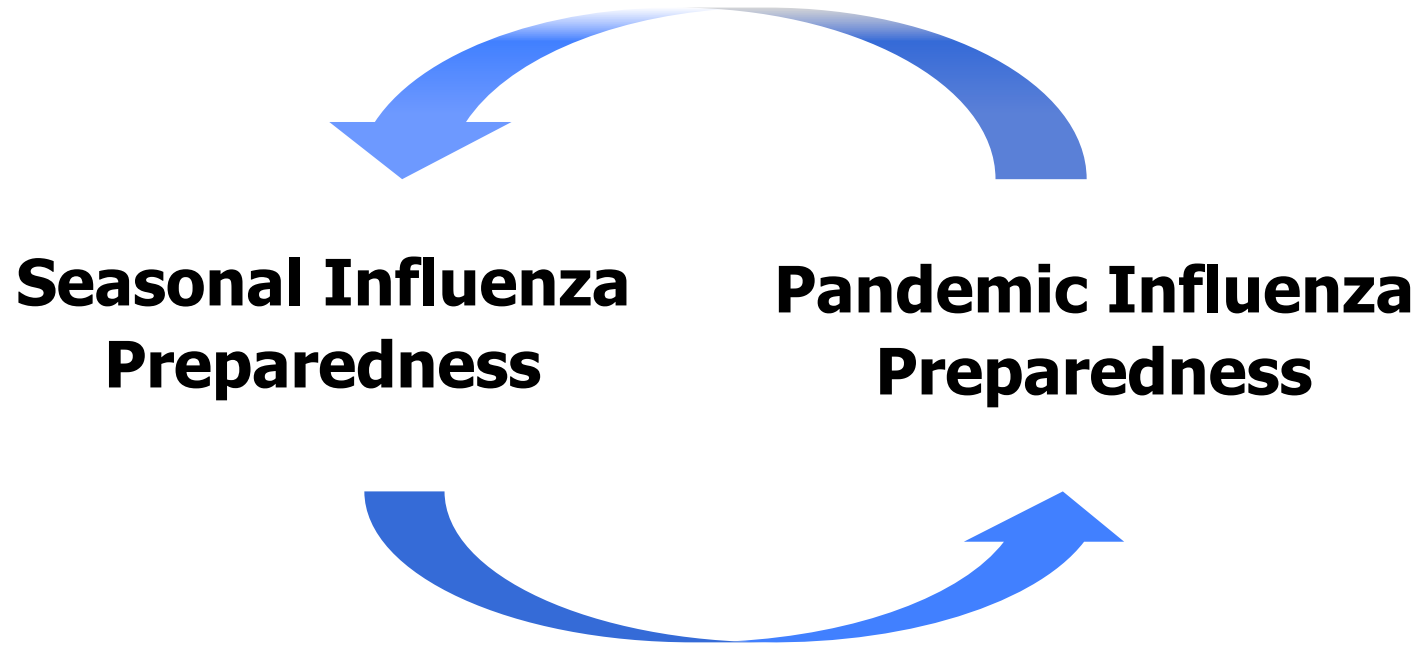
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2018 WORLD INFLUENZA CONFERENCE

Beijing, China

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Robust seasonal influenza vaccination programs are critical components of a nation's ability to respond to a pandemic quickly and effectively

Outline

- Current context for considering national influenza vaccination programs
- Value of influenza prevention
- Paradigm for program development
- Partnership for Influenza Vaccine Introduction

Summary of the WHO SAGE Influenza Vaccine Recommendations, 2012

- Influenza vaccines are effective and safe and warrant increased use in all countries
- Five priority groups for countries using or considering introduction of seasonal influenza vaccines
 - Pregnant women –highest priority group
 - 4 other priority groups
 - Health-care workers
 - Children <5 (particularly 6-23 mos.)
 - Elderly
 - Underlying health conditions

Influenza vaccins	Vaccins antigrippaux
WHO position paper¹ <p>In accordance with its mandate to provide guidance to Member States on health policy matters, WHO issues a series of regularly updated position papers on vaccines and vaccine combinations against diseases that have an international public health impact. These papers are concerned primarily with the use of vaccines in large-scale immunization programmes; limited vaccination, as executed mostly in the private sector, may be a valuable supplement to national programmes, but is not emphasized in these policy documents. The position papers summarize essential background information on the respective diseases and vaccines, and conclude with the current WHO position concerning their use in the global context. The papers have been reviewed by a number of experts inside and outside WHO, and are designed for use mainly by national public health officials and immunization programme managers. However, the position papers may also be of interest to international funding agencies, the vaccine manufacturing industry, the medical community and the scientific media.</p> <p>This position paper is concerned mainly with seasonal (epidemic) influenza and the public health impact of yearly influenza vaccination.²</p> Summary and conclusions <p>Influenza virus types A and B are both common causes of acute respiratory illnesses, although influenza A viruses are the principal cause of large epidemics, as well as pandemics. Children are efficient transmitters of influenza viruses and those 5–9 years of age typically manifest the highest rates of infection and illness. However, severe morbidity and mortality are more common among elderly people and in specific high-risk groups. Although morbidity and mortality and affected risk groups appear to be similar all over the world, in many developing countries the disease burden and the socioeconomic impact of influenza are largely unknown.</p> <p>Influenza viruses undergo frequent changes in their surface antigens. Immunity resulting from infection by one influenza virus does not protect fully against antigenic or genetic variants of the same subtype (influenza A viruses) or type (influenza B viruses). As a consequence, influenza outbreaks occur every year. New influenza vaccines must be designed annually to match the circulating viruses which are expected to cause the next epidemic.</p> <p>Efficacious and safe inactivated vaccines remain the cornerstone of influenza prophylaxis in most countries. Unless stated otherwise, the data presented in this document relate to inactivated trivalent vaccines only.</p>	Note d'information de l'OMS¹ <p>Conformément à son mandat qui prévoit qu'elle se doit de conseiller les États Membres sur les questions de politique sanitaire, l'OMS publie une série de notes d'information régulièrement actualisées sur les vaccins et associations vaccinales contre des maladies qui ont des effets sur la santé publique au niveau international. Ces notes d'information portent essentiellement sur l'utilisation des vaccins dans le cadre de programmes de vaccination à grande échelle; l'utilisation limitée de la vaccination telle qu'elle se pratique essentiellement dans le secteur privé peut compléter utilement les programmes nationaux mais n'est pas visée par ce type de document. Les notes d'information résument les informations générales essentielles sur les maladies et les vaccins correspondants et présentent en conclusion la position actuelle de l'OMS concernant leur utilisation dans le cadre mondial. Ces notes ont été soumises à un certain nombre de spécialistes à l'OMS et à l'extérieur et sont principalement destinées aux responsables nationaux de la santé publique et des programmes de vaccination. Mais les notes d'information peuvent également présenter un intérêt pour les organismes internationaux de financement, les fabricants de vaccins, le corps médical et les médias scientifiques.</p> <p>La présente note s'intéresse principalement à la grippe saisonnière (épidémique) et aux conséquences de la vaccination antigrippale annuelle pour la santé publique.²</p> Résumé et conclusions <p>Les virus grippaux de type A et B sont des causes fréquentes d'infections respiratoires aiguës, les virus grippaux de type A étant principalement en cause dans le cas des grandes épidémies et des pandémies. L'enfant transmet de manière particulièrement efficace le virus grippal et c'est l'enfant de 5 à 9 ans qui présente généralement les taux les plus élevés d'infection et de morbidité. La morbidité grave et la mortalité touchent cependant plus souvent les personnes âgées et certains groupes à haut risque. Si la morbidité, la mortalité et les groupes à risque semblent être semblables dans le monde entier, la charge de morbidité et les effets socio-économiques de la grippe restent en grande partie inconnus dans beaucoup de pays en développement.</p> <p>Les antigènes de surface des virus grippaux changent fréquemment. L'immunité acquise à la suite d'une infection par un virus grippal n'induit pas une protection totale contre les variants antigéniques ou génétiques du même sous-type (virus grippaux A) ou du même type (virus grippaux B). Des flambées de grippe surviennent de ce fait chaque année. De nouveaux vaccins doivent être conçus chaque année et adaptés aux virus en circulation, lesquels devraient être à l'origine de l'épidémie suivante.</p> <p>Les vaccins inactivés, efficaces et sûrs, restent la pierre angulaire de la prophylaxie dans la plupart des pays. Sauf indication contraire, les données présentées dans le présent document se rapportent uniquement aux vaccins trivalents inactivés.</p>

¹ Remplace le position paper of 12 July 2002 (voir le N° 28, 2002, pp. 230-239).

² Pour l'actualité information on pandemics, see http://www.who.int/influenza/who_guidelines_on_the_use_of_vaccines_and_antivirals_during_influenza_pandemics. Geneva, World Health Organization, 2004 (WHO/CDS/CSR/IMD/2004.4); http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_RMD_2004_8.pdf.

³ Remplace la note d'information de 12 juillet 2002 (voir le N° 28, 2002, Pages 230-239).

⁴ Pour le point de la question sur les pandémies, voir http://www.who.int/influenza/who_guidelines_on_the_use_of_vaccines_and_antivirals_during_influenza_pandemics. Genève, Organisation mondiale de la Santé, 2004 (WHO/CDS/CSR/IMD/2004.4); http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_RMD_2004_8.pdf.

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Current context for expanding influenza vaccination: *Opportunities*

- More (and better) data on value of influenza vaccination
 - Disease and economic burden (PIP-sponsored)
 - Vaccine performance
- Increased interest in influenza vaccines globally
 - 2012 WHO SAGE recommendations
 - More countries have influenza vaccine policies now
 - Increase from 74 countries (2006) to 115 (57%) countries (2016)¹
- Increased current and potential vaccine production, and use
 - GAP program success
 - Expanded list of vaccine formulations

Current context for expanding influenza vaccination: *Challenges*

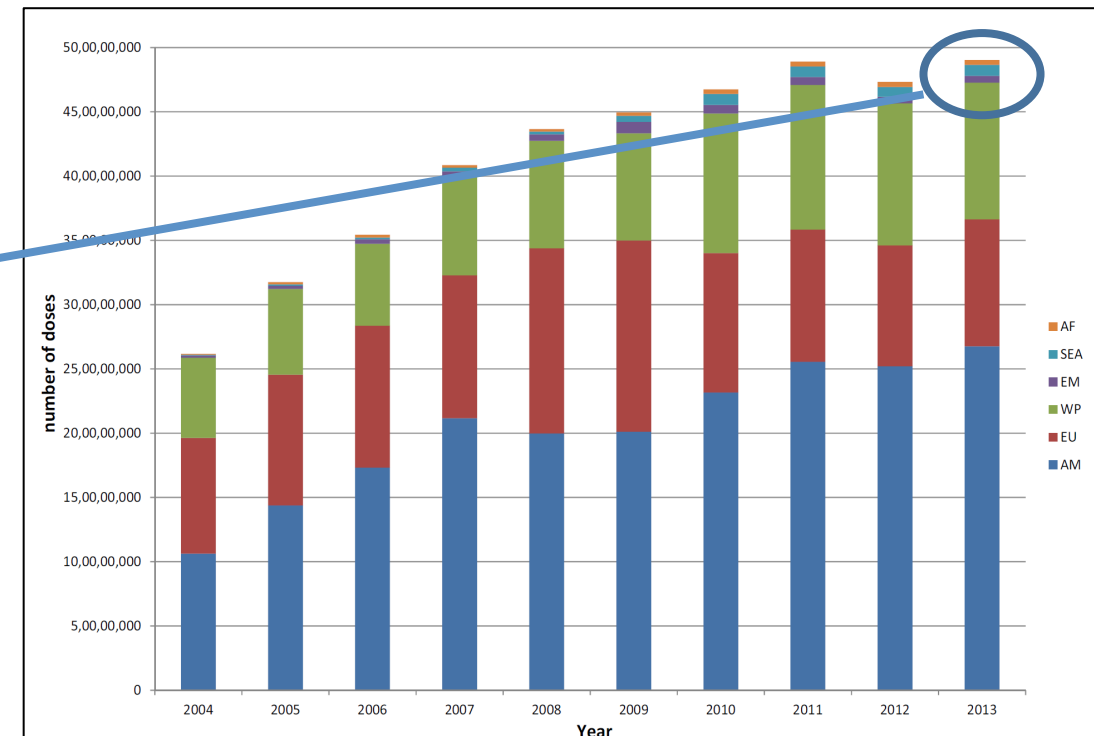
Vaccine use increasing globally, but underused in low and middle income countries

- 47% of population receive 4% of doses²

Even in many countries with policies, programs are weak

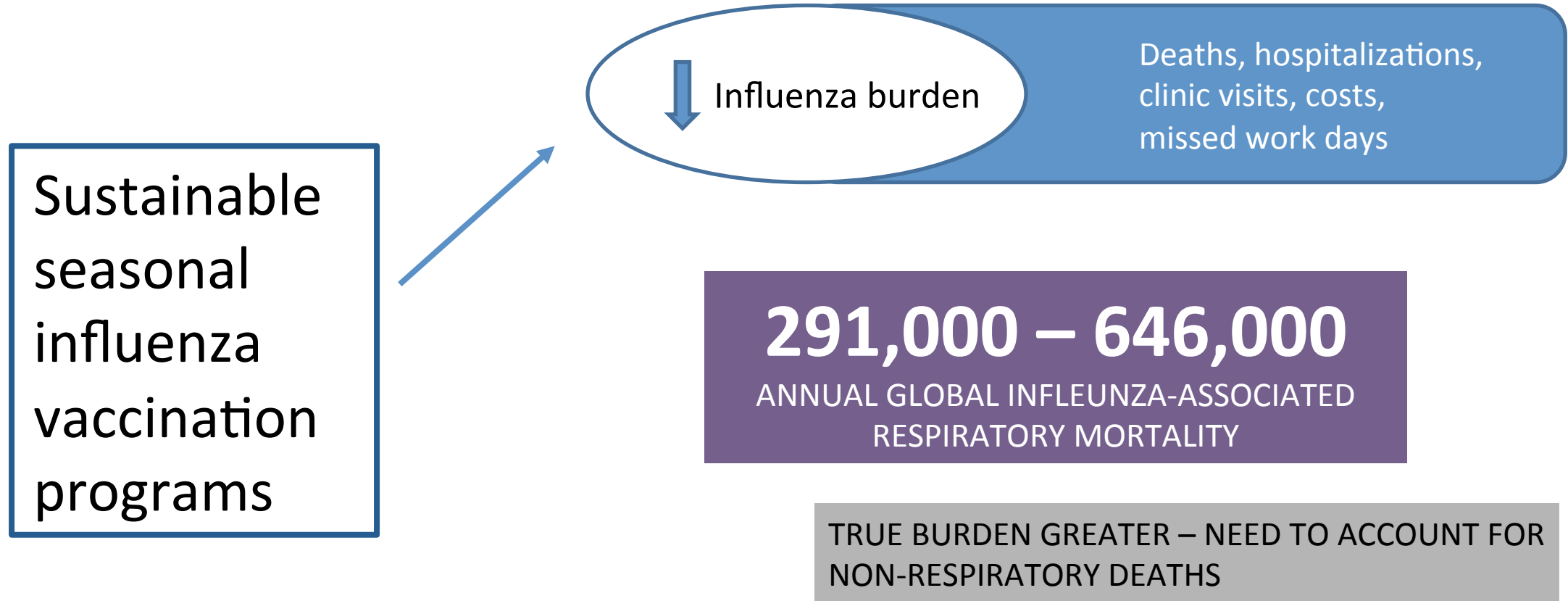
Recent decreases in vaccine use in some places concerning

Global Influenza vaccine distribution, 2004 -2011



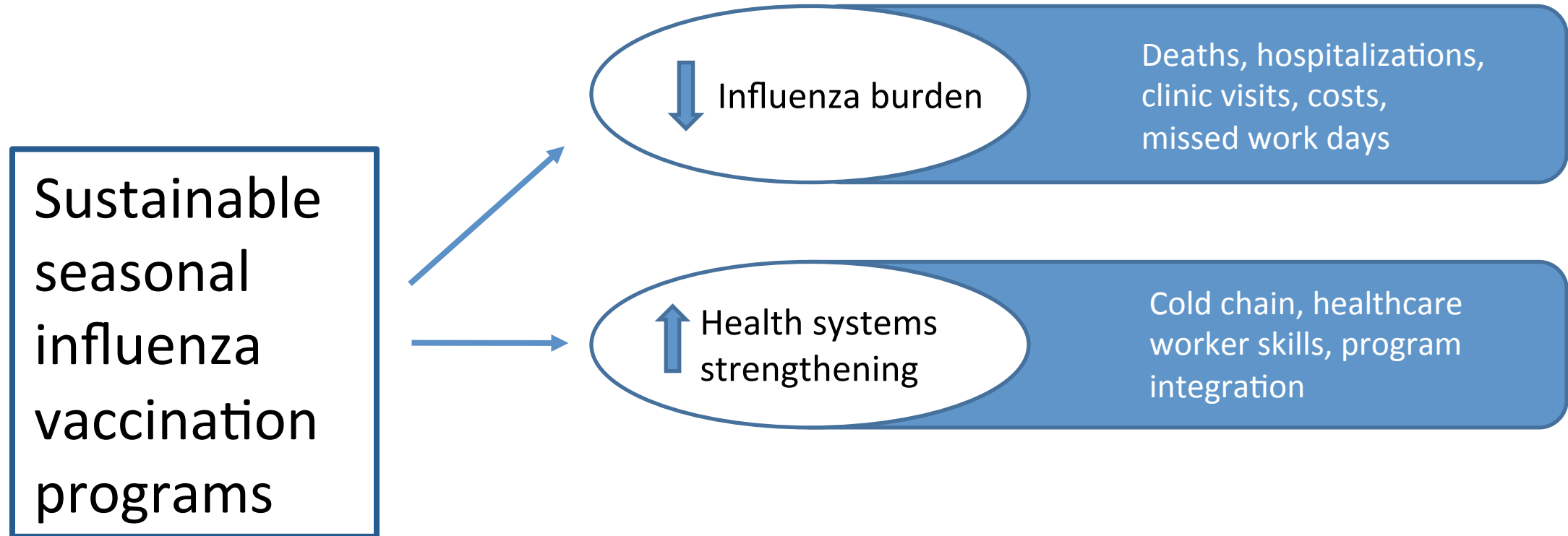
Palache et al. Vaccine 33 (2015) 5598–5605.

Value of national seasonal influenza vaccination programs

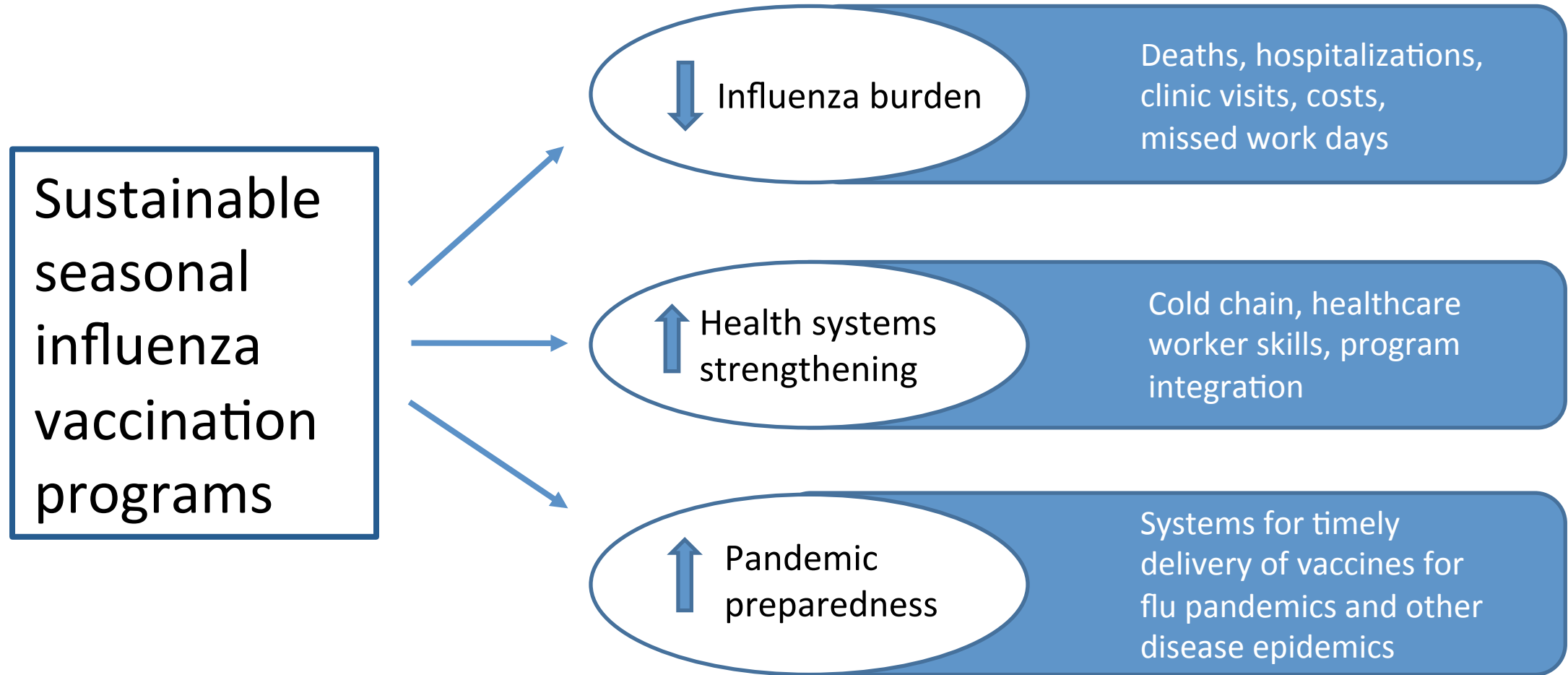


IULIANO ET AL, LANCET 2017

Value of national seasonal influenza vaccination programs



Value of national seasonal influenza vaccination programs



Seasonal programs as a pandemic response necessity

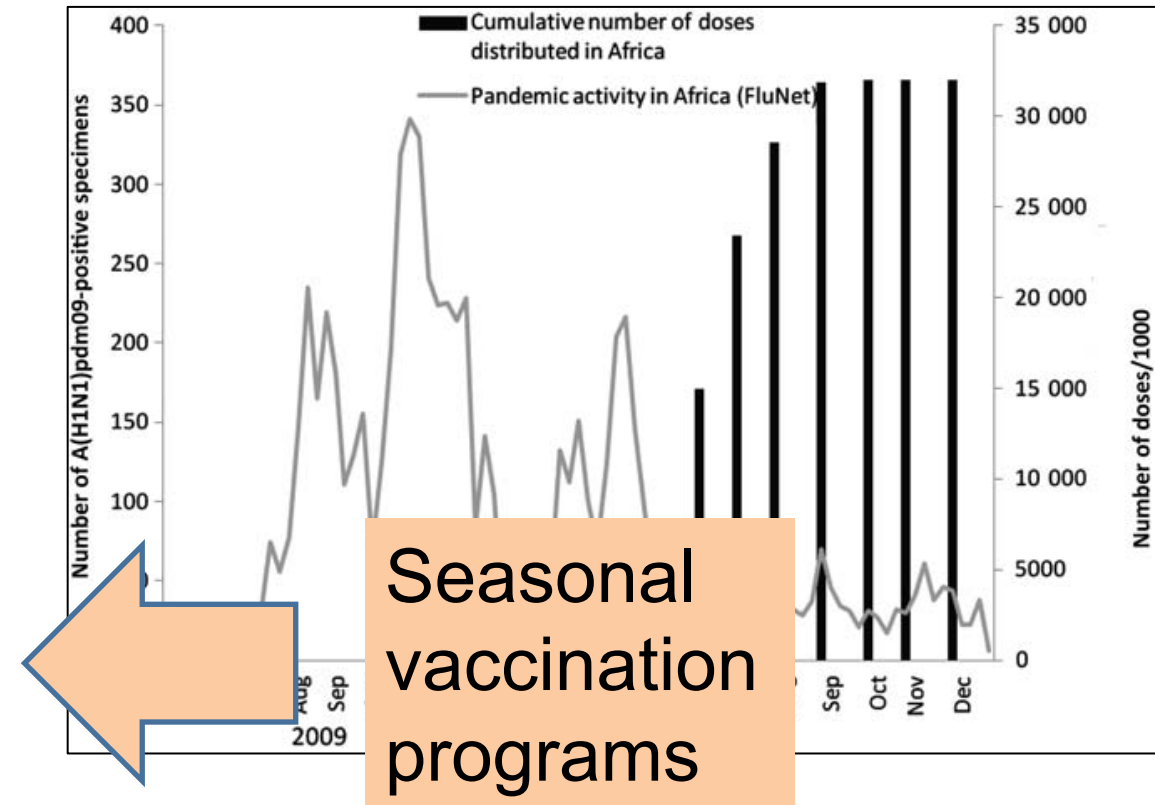
- WHA56.19 (2003)
 - Member States should establish and implement strategies to increase influenza vaccination coverage of all people at high risk.
 - Urged members to develop pandemic plans
- Reiterated in
 - Global Action Plan for Influenza Vaccines – 2006-16
 - Pandemic Influenza Preparedness Framework – 2011
 - WHA70(10) – Review of PIP Framework - 2017



Lack of seasonal programs threaten pandemic response

The context for PIVI: *Global vaccine response in 2009 pandemic*

- Pandemic vaccine did not get to low-resource countries until January 2010¹
- Lack of existing public sector influenza vaccine programs was a barrier to rapid deployment of pandemic vaccines
 - Regulatory pathways had to be developed
 - Legal agreements for liability
 - National vaccine policy had to be developed
 - Distribution systems to get vaccine to target groups
 - Acceptance of the vaccine often low
 - Monitoring of vaccination program (coverage, AEFIs) difficult in non-traditional immunization targets



Mihigo et al. J Infect Dis 2012

¹ Report of the WHO Pandemic Influenza A(H1N1) Vaccine Deployment Initiative, 2012

PARTNERSHIP FOR INFLUENZA VACCINE INTRODUCTION (PIVI)

PIVI is an innovative public/private partnership between Ministries of Health, corporate partners, and technical agencies to:

- create sustainable, routine, seasonal influenza vaccination programs in low- and middle-income countries; and
- build the immunization infrastructure, capacity and vaccine delivery systems required for future influenza pandemics and other infectious disease epidemics.



PIVI APPROACH | WORKING IN PARTNERSHIP

COUNTRY PARTNERS

Develop flu vaccine policy & implement vaccination program and evaluation

CONTRIBUTING PARTNERS

Provide vaccines, shipping, supplies and financial support

TECHNICAL COLLABORATORS

Support evaluation; provide technical guidance & assistance



Coordinate the program; work with partners; develop and implement strategy; provide technical and NITAG support

PIVI TECHNICAL SUPPORT

Program Planning

NITAG strengthening

Selection of optimal vaccine formulations

Staff training

Communication / Social mobilization

KAPP surveys

Sustainability planning

Program Evaluation

Adverse event

monitoring

Post-introduction evaluations

Economic evaluations

Vaccine effectiveness

Modelling program impact

Pandemic Planning

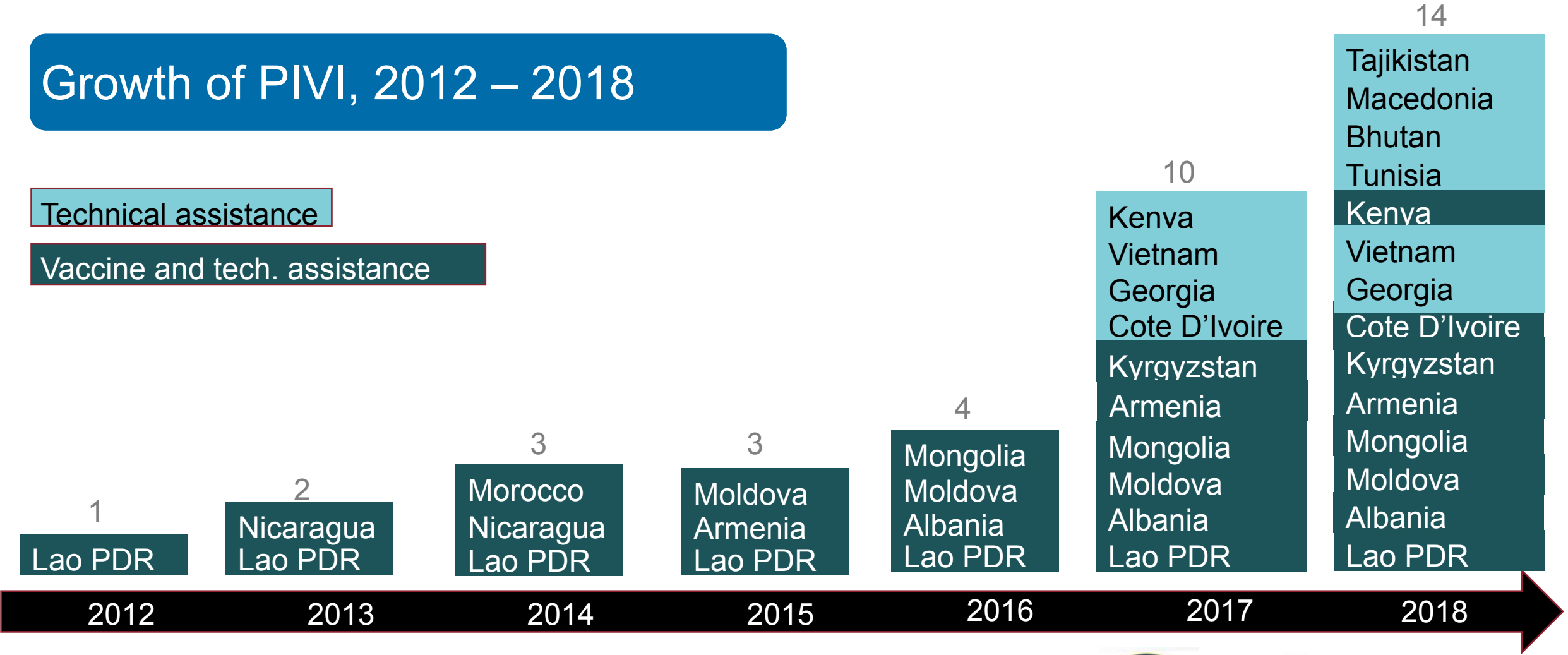
Pandemic plan revision

Vaccine group prioritization

Growth of PIVI, 2012 – 2018

Technical assistance

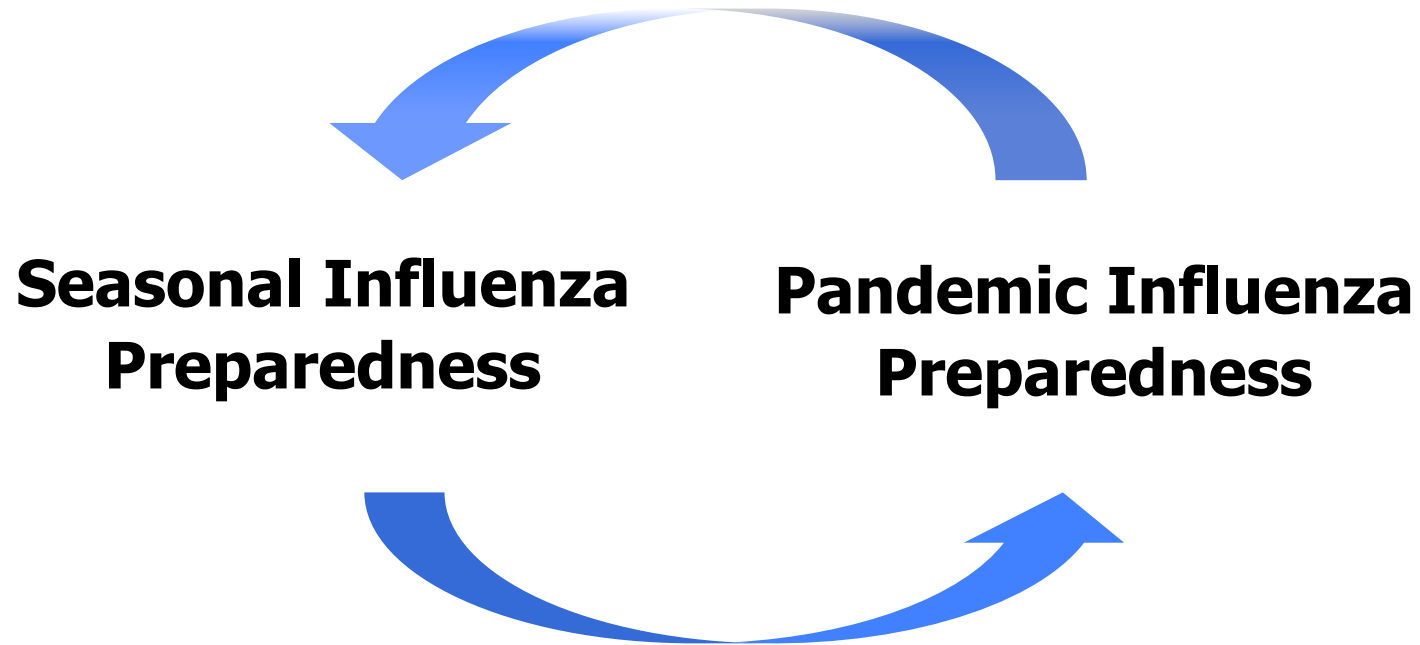
Vaccine and tech. assistance



PIVI as a mechanism to find solutions for country and industry challenges



Work in partnership with countries, industry, and technical agencies to build evidence / value for vaccination, reduce supply and demand uncertainty, develop best practices for global growth of vaccine use



Robust seasonal influenza vaccination programs are critical components of a nation's ability to respond to a pandemic quickly and effectively

THANKS