



II Encuentro Nacional de Epidemiología Buenos Aires 19 de Octubre de 2012 Sociedad Argentina de Pediatría

El valor de la farmacoconomía en las vacunas

Norberto D. Giglio Msc
Epidemiología- Hospital Ricardo Gutiérrez
Buenos Aires



No podremos decir si algo es caro o barato si antes no conocemos qué estamos comprando.



No nos decidiremos a comprar un determinado bien, por mucho que lo deseemos, si antes no conocemos su precio

Evolución del Calendario de Vacunación en Argentina (Años 1999-2011)

HASTA
2003
sólo 8
vacunas

- triple bacteriana celular
- sabin
- doble bacteriana
- BCG
- hepatitis B - personal de salud (a cargo del empleador)
- triple viral - 12 meses, 6 años
- cuádruple bacteriana - <2 años
- hepatitis B - recién nacido

- hepatitis B] dosis para completar
- triple viral [o iniciar esquema

- hepatitis A - 12 meses

- fiebre amarilla] para zonas de riesgo
- fiebre hemorrágica argentina

- pentavalente - <1 año

- triple bacteriana acelular - 11 años

Hasta 2012
16
vacunas

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
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CALENDARIO DE VACUNACIÓN: VACUNAS GRATUITAS Y OBLIGATORIAS

US price per dose (US\$)		Weighted average price per dose (US\$)		
	CDC (public)	CDC (private)	UNICEF for GAVI Alliance [*]	PAHO revolving fund ^t
DTwP-Hib (liquid, ten doses per vial)	N/A	N/A	3·40	3·30
DTwP-HepB-Hib (pentavalent vaccine; liquid, one dose per vial)	N/A	N/A	3·01	3·20
Hib (lyophilised, one dose per vial)	N/A [‡]	N/A	3·40	2·25
Pneumococcal conjugate ten-valent (liquid, one or two doses per vial)	N/A	N/A	7·00	20·00
Pneumococcal 13-valent (liquid, one dose per vial or prefilled syringe)	91·75	114·15	7·00	20·00
Rotavirus (liquid, two-dose schedule)	83·75	102·50	N/A	7·50
Rotavirus (liquid, three-dose schedule)	59·18	69·59	N/A	5·15

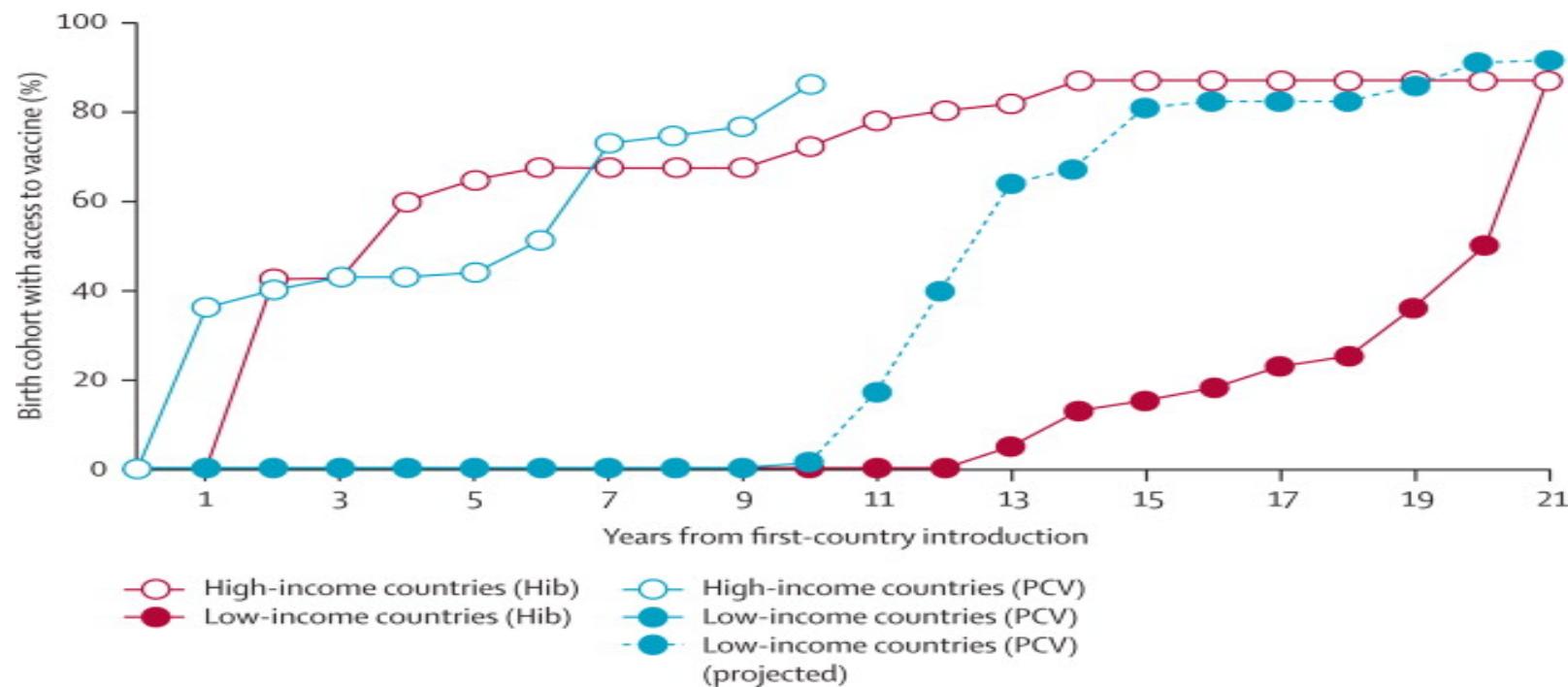


Figure 3 Uptake of Hib and pneumococcal vaccines in high-income versus low-income countries. Hib=*Haemophilus influenzae* type b. PCV=pneumococcal vaccine. Dashed line=projected uptake. Solid line=actual uptake.

Orin S Levine , David E Bloom , Thomas Cherian , Ciro de Quadros , Samba Sow , John Wecker , Philippe Duclos , Br...

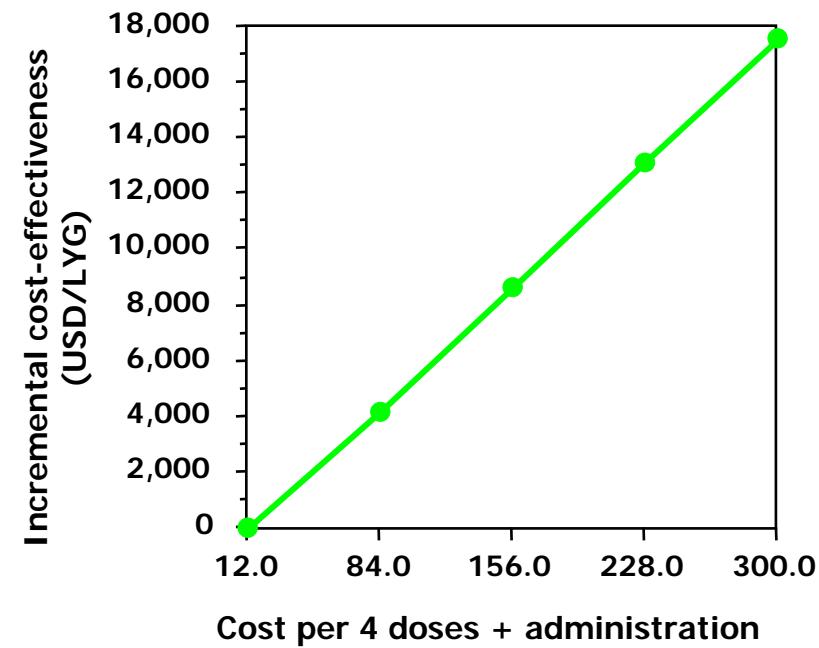
The future of immunisation policy, implementation, and financing

The Lancet Volume 378, Issue 9789 2011 439 - 448

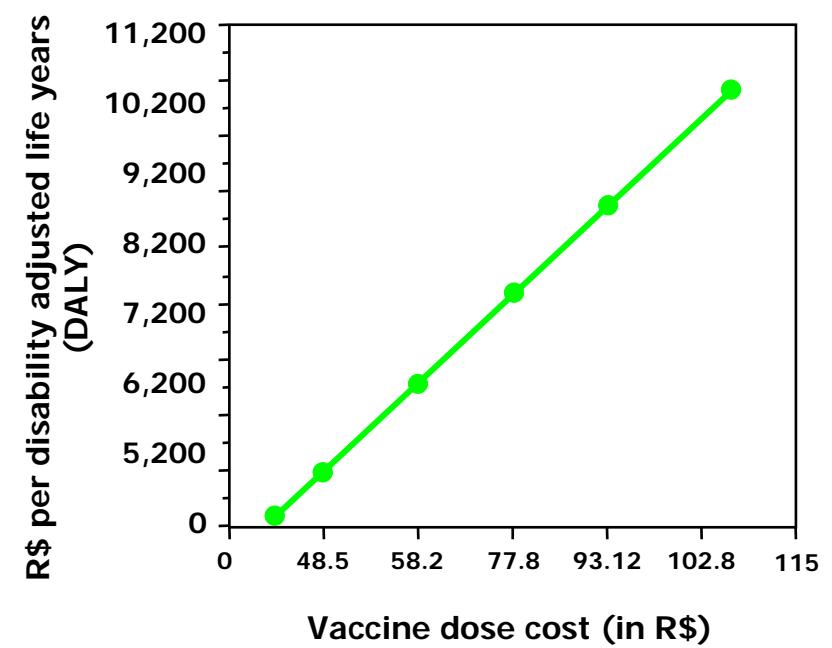
[http://dx.doi.org/10.1016/S0140-6736\(11\)60406-6](http://dx.doi.org/10.1016/S0140-6736(11)60406-6)

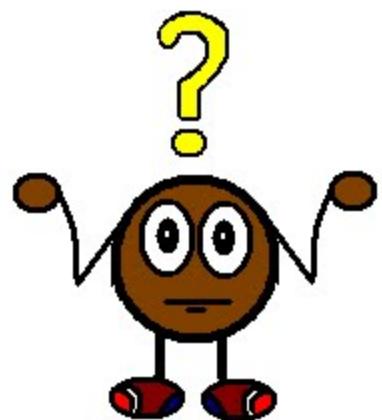
Costo de la vacuna y Costo Efectividad

Argentina



Brazil





Mecanismos Inovadores de financiacion



- **GAVI Alliance**

Objetivo incrementar el acceso a la inmunización mediante el apoyo de áreas principales: como sistemas de inmunización, nuevas vacunas e infrautilizadas; seguridad de las inmunizaciones

- **PAHO revolving fund**

En 2010, el fondo ofreció 46 tipos de vacunas para los países participantes, para un total proyectado de 155 millones de dosis, con un valor de \$ 320 millones

- **UNICEF**

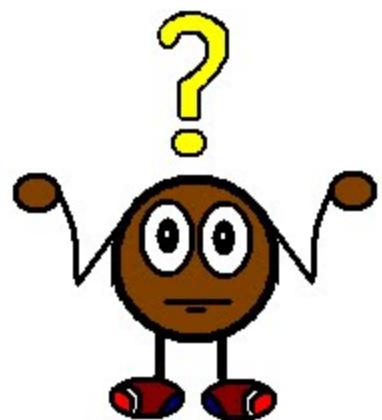
En 2009, UNICEF adquirió casi 3 millones de dosis de vacunas por valor de más de \$ 800 millones y más de \$ 60 millones de dólares en suministros de vacunas

- **Transferencia Tecnologica**

Brasil se ha comprometido a comprar alrededor de \$ 2.2 mil millones de vacuna de GlaxoSmithKline para enfermedad neumocócica durante un período de 8 años, a cambio de la transferencia de tecnología

The Lancet Volume 378, Issue 9789 2011 439 - 448

Orin S Levine , David E Bloom , Thomas Cherian , Ciro de Quadros ,
Samba Sow , John Wecker , Philippe Duclos , Br...

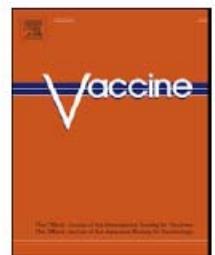




Contents lists available at ScienceDirect

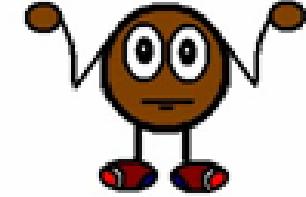
Vaccine

journal homepage: www.elsevier.com/locate/vaccine

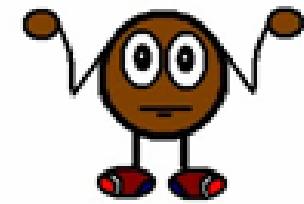


Strengthening the technical capacity at country-level to make informed policy decisions on new vaccine introduction: Lessons learned by PAHO's ProVac Initiative

Barbara Jauregui^{a,*}, Anushua Sinha^b, Andrew D. Clark^c, Brenda M. Bolanos^c,
Stephen Resch^d, Cristiana M. Toscano^{a,e}, Cuauhtemoc Ruiz Matus^a, Jon K. Andrus^a



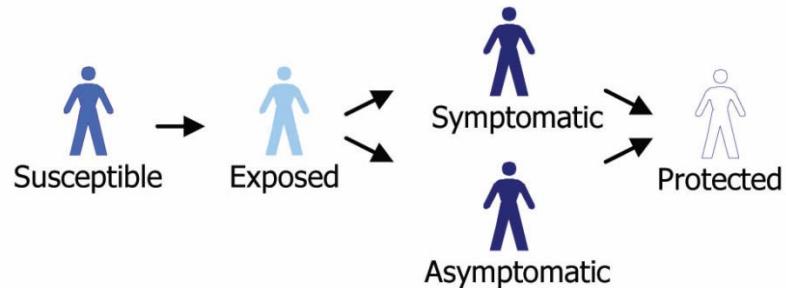
- Estudios de costo/efectividad
- Estudios de efectividad por vacuna o impacto
- Estudios de costo/efectividad e impacto de los programas de vacunacion



Estudios de costo/efectividad

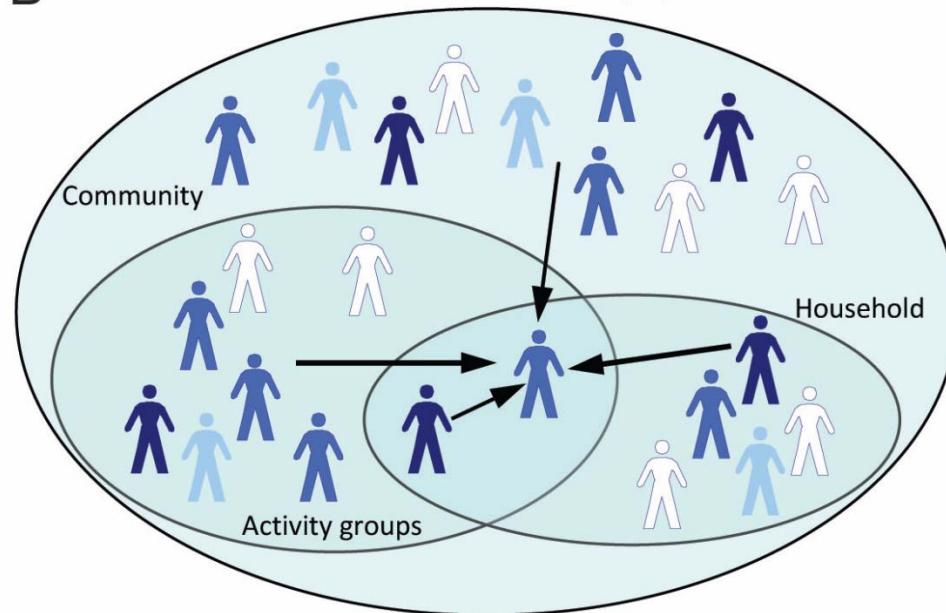
A

Natural history of the disease



B

Influenza transmission in the population



[Public health and economic benefits of new pediatric influenza vaccination programs in Argentina.](#)

Giglio N, Gentile A, Lees L, Micone P, Armoni J, Reygrobelle C, Crepey P.
Hum Vaccin Immunother. 2012 Mar 1;8(3):312-22. doi: 10.4161/hv.18569. Epub 2012 Feb 14

Costos usados en cada estudio (USD)

	Vespa et al [29] ^a	Giachetto Larraz et al [24] ^a	Sinha et al [25] ^a	Constenla et al [26] ^a	Giglio et al [27] ^a	Souza et al [36] ^b	Sartori et al [28] ^a
Meningitis	607.5	1621	1843	1843	2485.8	7443.6	
Bacteremia ambulatorios		56.9			248.2		526.56 ^c
Hospitalizado		449.7					
Sepsis	1017.4	1621	1344	1344		5550.2	
Neumonía					187.35		
Hospitalizado	344.4	845	1017	1017		3479.7	278.23
Ambulatorio	45.6	28.7	117	117		29.1	45.74
Otitis:	31.1	20.3	101	101	40.05	139.9	17.4

[The pharmacoconomics of pneumococcal conjugate vaccines in Latin America.](#)
Giglio N, Micone P, Gentile A.
Vaccine. 2011 Sep 14;29 Suppl 3:C35-42.

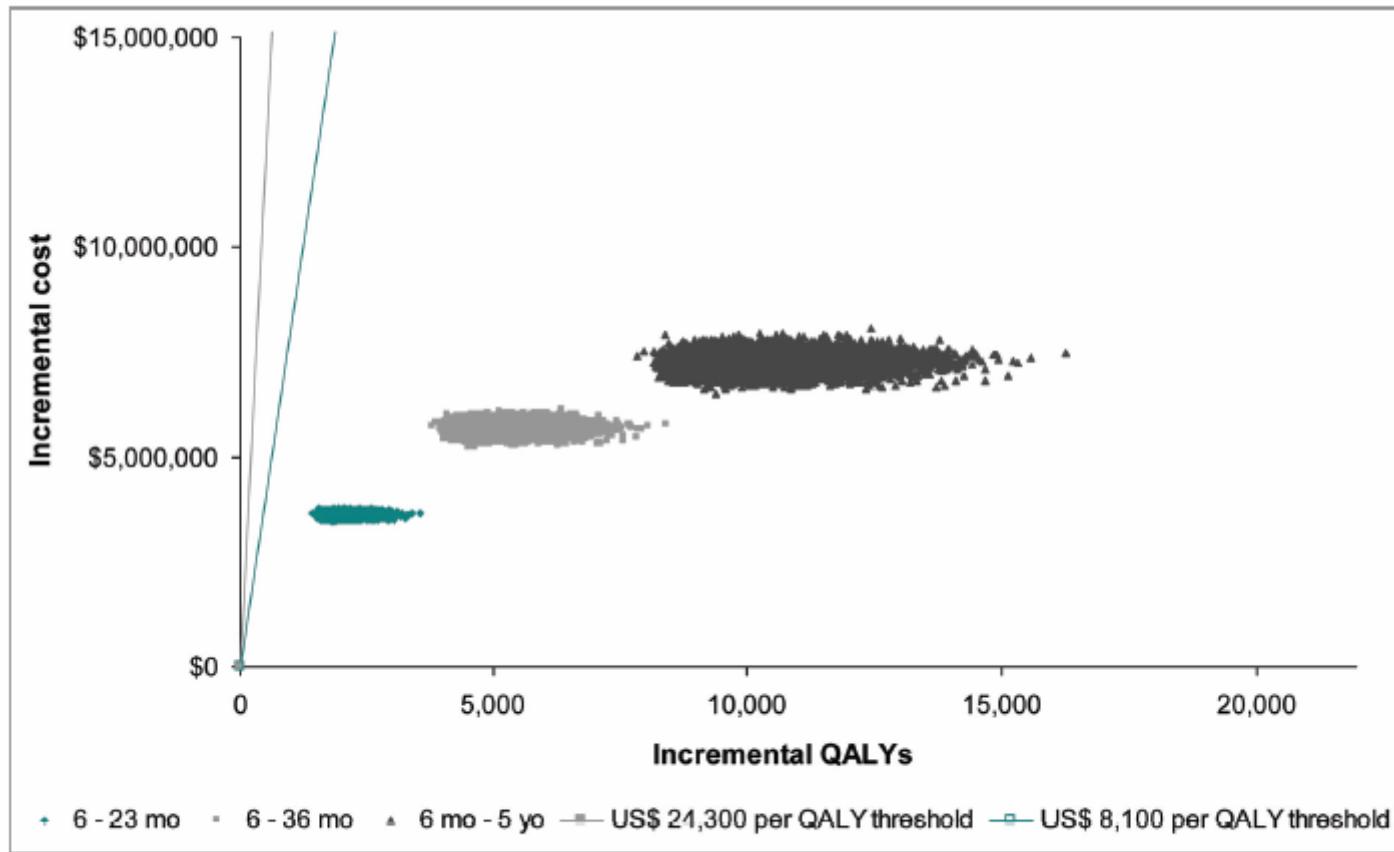
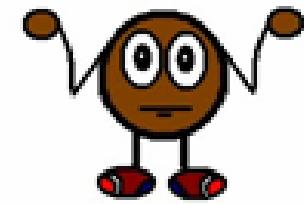
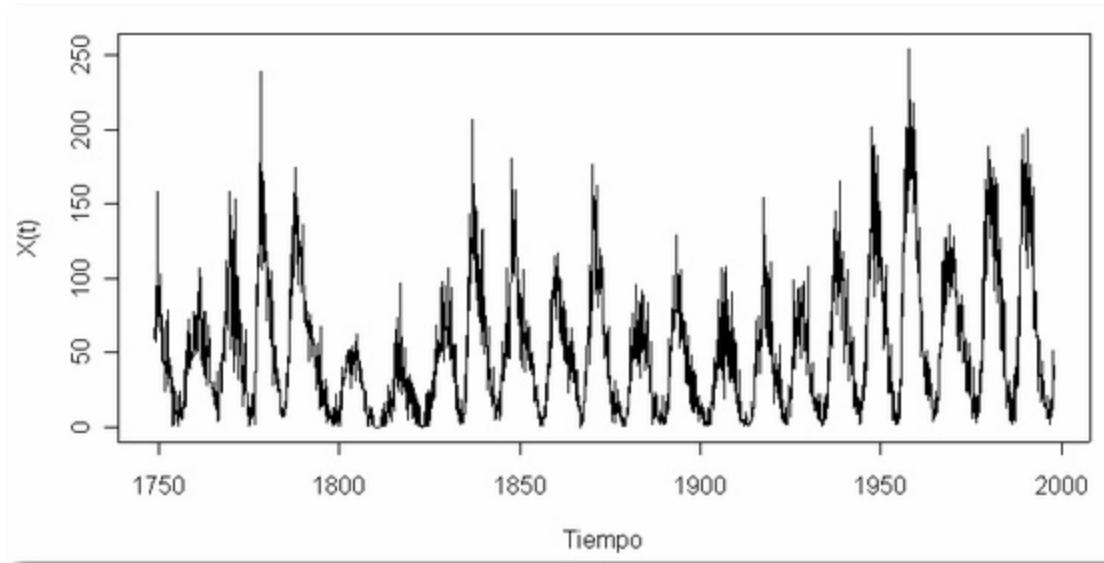


Figure 2. Cost-effectiveness plane of PSA. All vaccination scenarios are below cost-effectiveness thresholds of US\$ 8,100 and US\$ 24,300 per QALY.



Estudios de efectividad por vacuna o impacto

- Si podemos encontrar patrones de regularidad en diferentes secciones de una serie temporal, podremos también describirlas y predecir comportamientos



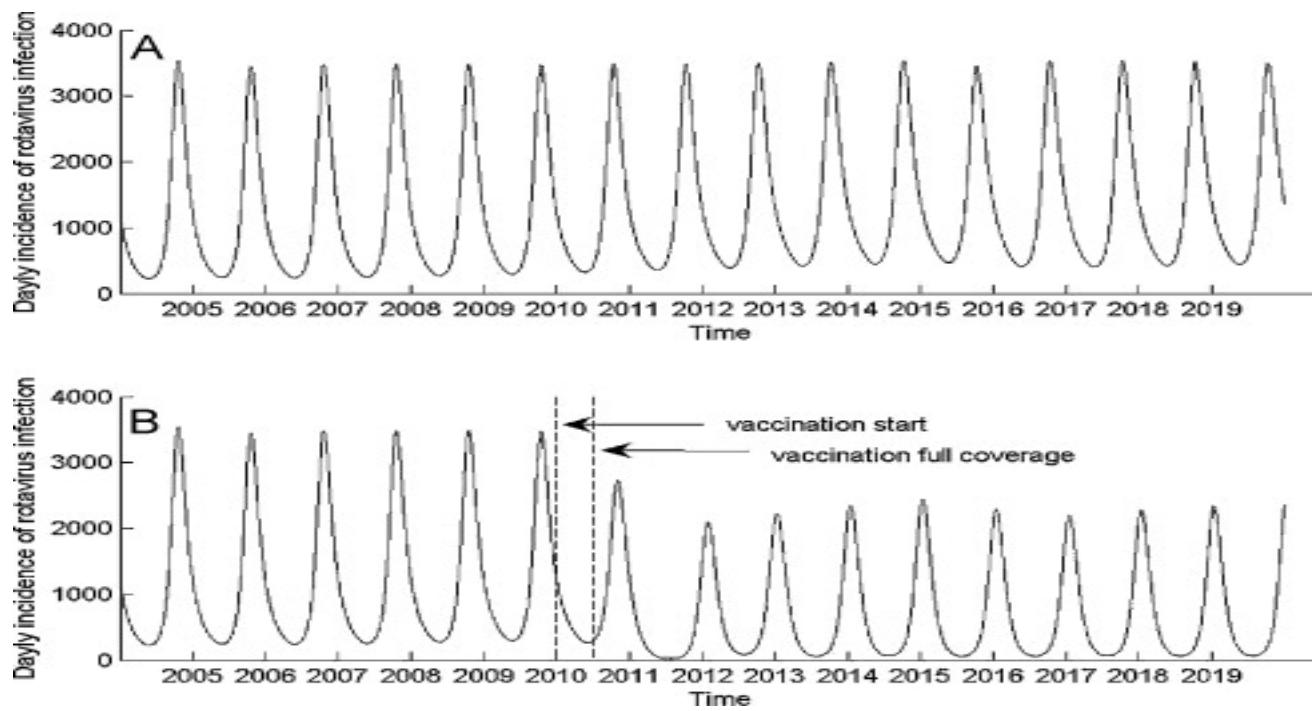


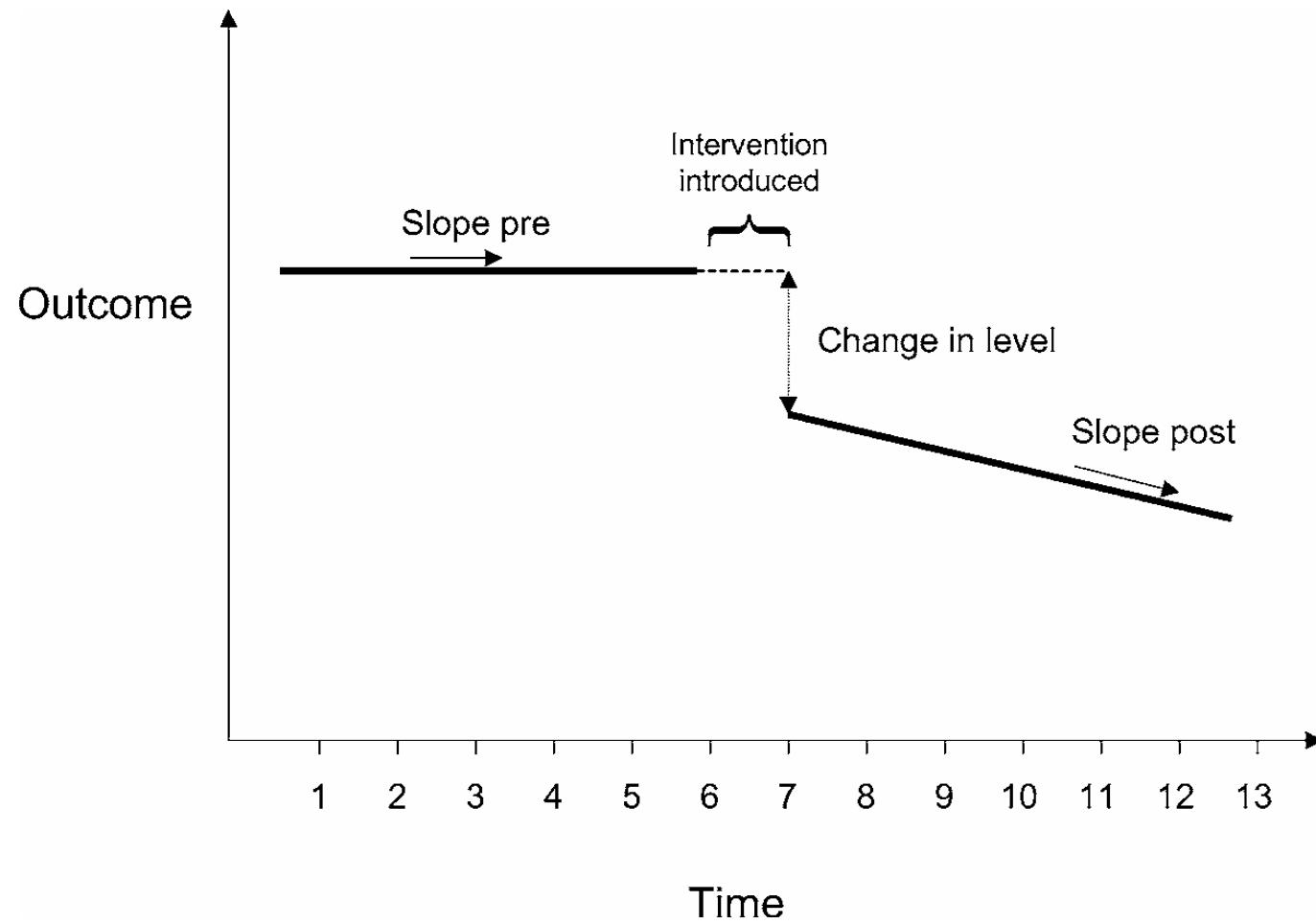
Fig. 4 Model-predicted daily incidence of rotavirus infections among children <5 years of age without vaccination (A) and with vaccination (B); the baseline scenario of 95% coverage and vaccine effectiveness of 60% is shown.

Birgitte Freiesleben de Blasio , Kaliya Kasymbekova , Elmira Flem

Dynamic model of rotavirus transmission and the impact of rotavirus vaccination in Kyrgyzstan

Vaccine Volume 28, Issue 50 2010 7923 - 7932

<http://dx.doi.org/10.1016/j.vaccine.2010.09.070>



International Journal of Technology Assessment in Health Care, 19:4 (2003), 613–623.



Organisation mondiale de la Santé

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on hepatitis A vaccines –
June 2012

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- 261 Note de synthèse: position de
l'OMS concernant les vaccins
contre l'hépatite A – Juin 2012

WHO position paper on hepatitis A vaccines – June 2012

In accordance with its mandate to provide
guidance to Member States on health pol-
icy matters, WHO issues a series of posi-

Weekly epidemiological record Relevé épidémiologique hebdomadaire

13 JULY 2012, 87th YEAR / 13 JUILLET 2012, 87^e ANNÉE

No. 28-29, 2012, 87, 261–276

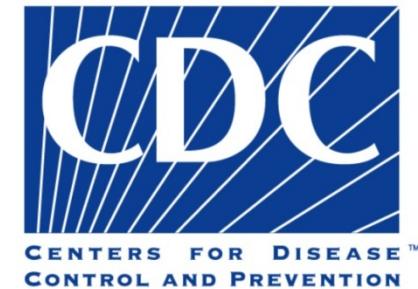
<http://www.who.int/wer>

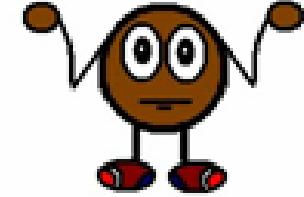
Note de synthèse: position de l'OMS concernant les vaccins contre l'hépatite A – Juin 2012

Conformément à son mandat qui prévoit
qu'elle conseille les États Membres en matière
de politiques sanitaires, l'OMS publie une série

Evaluacion de la efectividad de la vacunacion con triple bacteriana
acelular en mujeres embarazadas para prevenir coqueluche en
lactantes

Estudio multicentrico de casos y controles





Estudios de costo/ efectividad e impacto de los programas de vacunación



Available online at www.sciencedirect.com



Vaccine 23 (2005) 1624–1635



www.elsevier.com/locate/vaccine

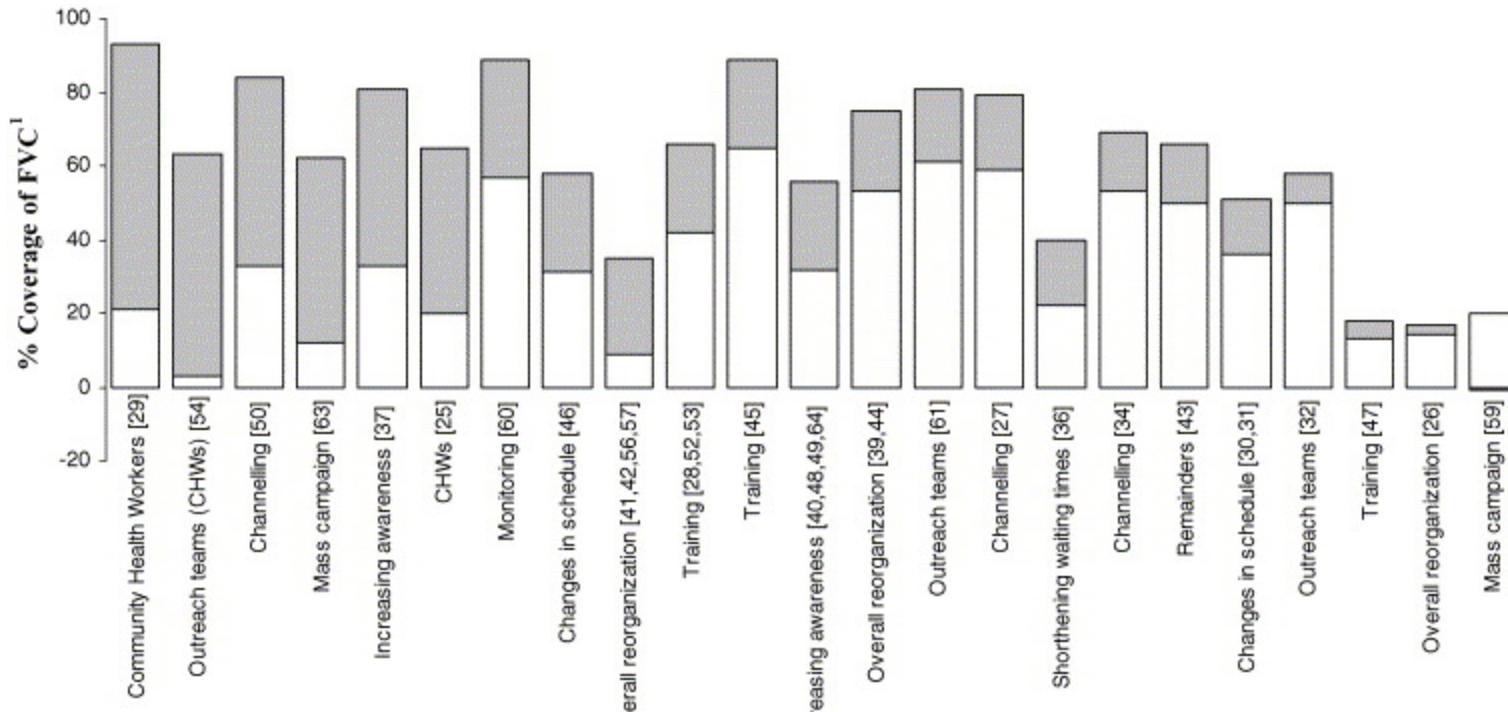
The effects and costs of expanding the coverage of immunisation services in developing countries: a systematic literature review

Elisabetta Pegurri, Julia A. Fox-Rushby*, Walker Damian

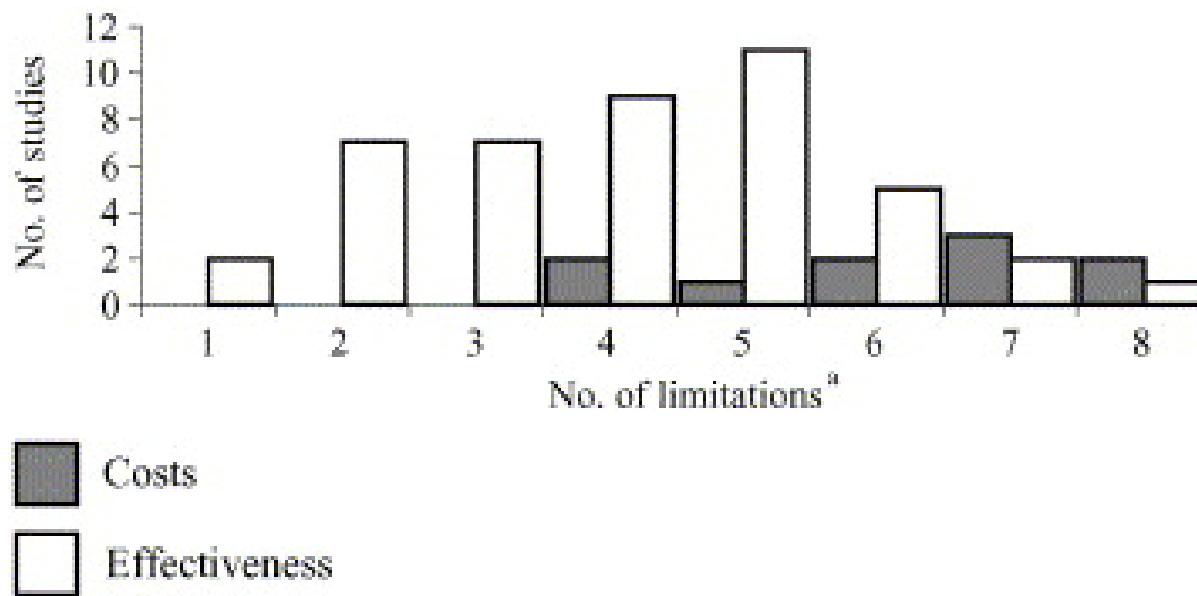
Health Policy Unit, Department of Public Health and Policy, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT, UK

Received 14 August 2003; accepted 18 February 2004

Available online 9 April 2004



Changes in the proportion of FVC following the interventions.
aThis includes using DPT3 as a proxy.



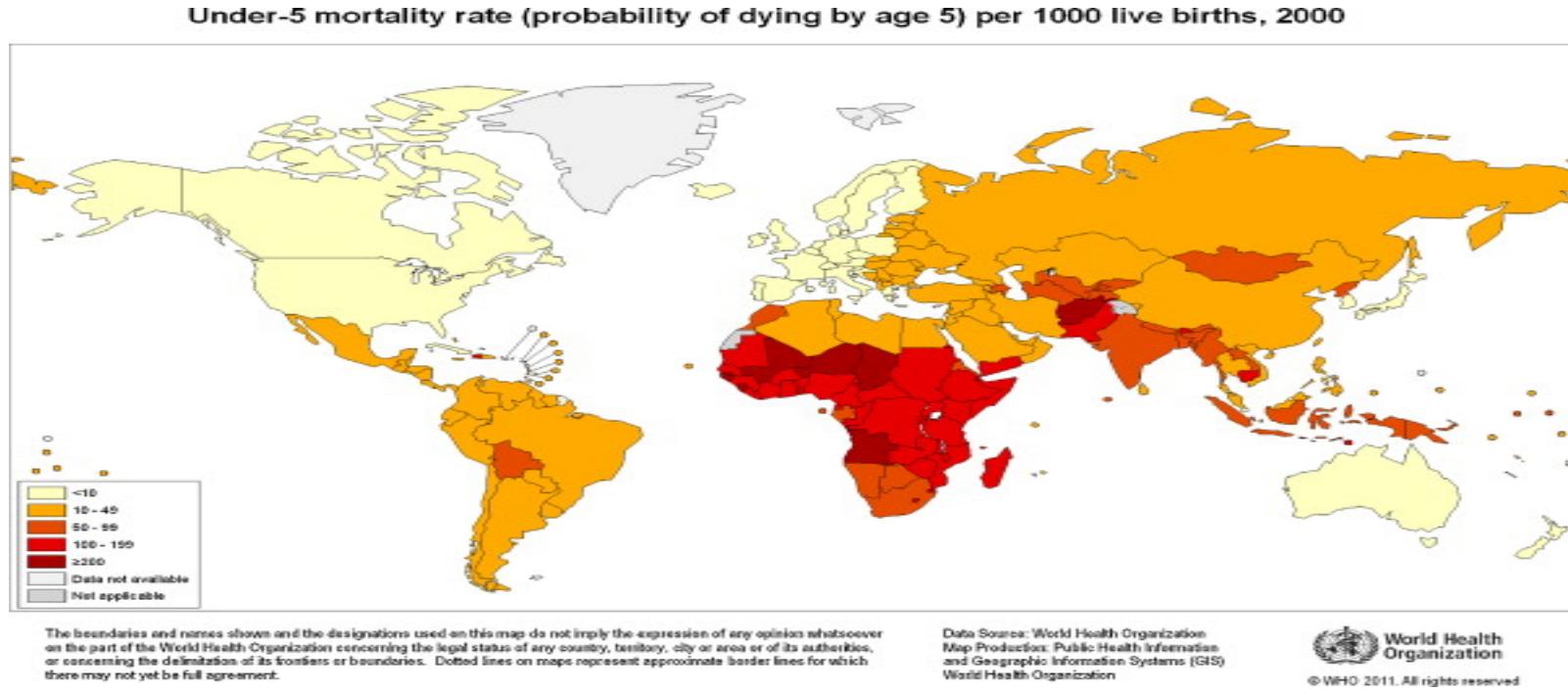


Fig. 1 Map of global distribution of U5MR [34].

Bafedile E. Chauke-Moagi , Mutale Mumba

New vaccine introduction in the East and Southern African sub-region of the WHO African region in the context of GIVS and MDGs

Vaccine Volume 30, Supplement 3 2012 C3 - C8

<http://dx.doi.org/10.1016/j.vaccine.2012.05.086>

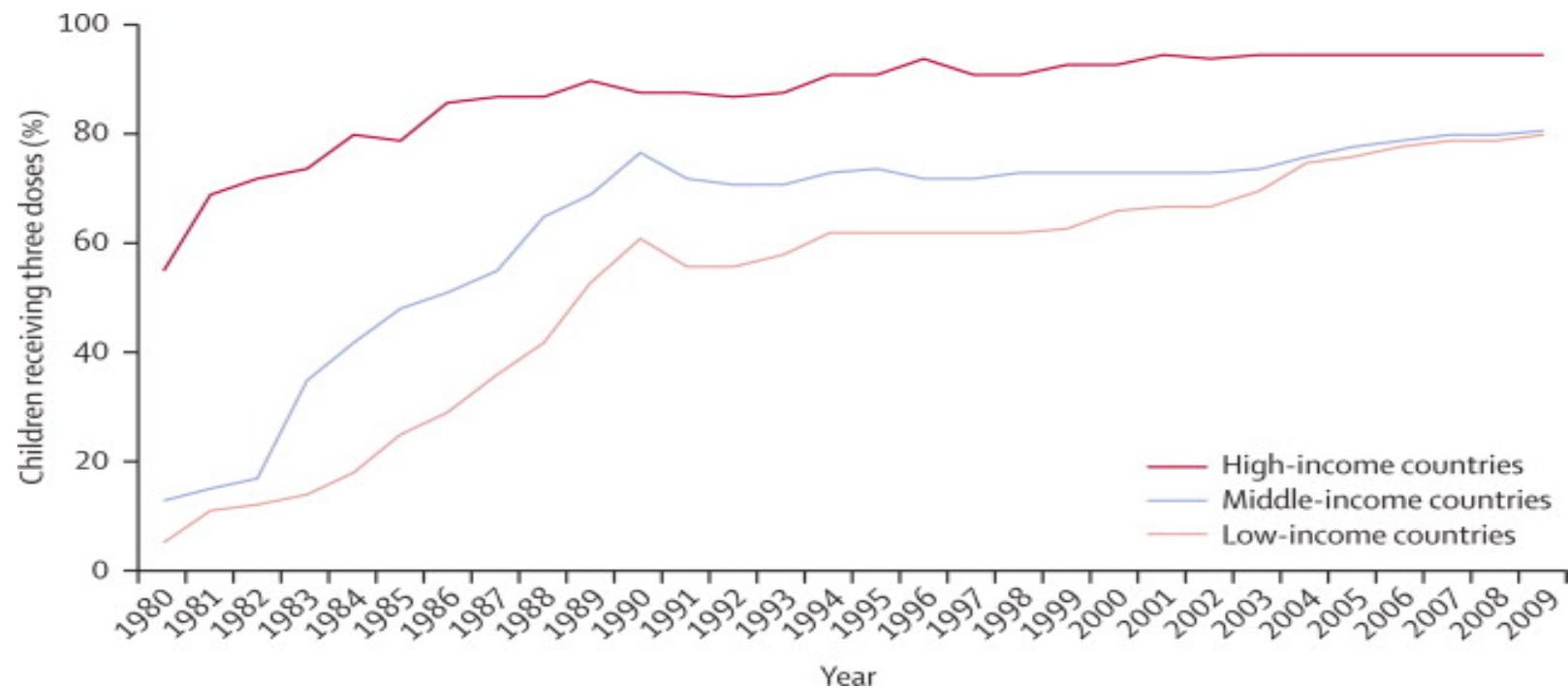


Figure 2 Proportion of children younger than 1 year receiving three doses of diphtheria, tetanus, and pertussis vaccine, 1980?2009

Orin S Levine , David E Bloom , Thomas Cherian , Ciro de Quadros , Samba Sow , John Wecker , Philippe Duclos , Br...

The future of immunisation policy, implementation, and financing

The Lancet Volume 378, Issue 9789 2011 439 - 448

[http://dx.doi.org/10.1016/S0140-6736\(11\)60406-6](http://dx.doi.org/10.1016/S0140-6736(11)60406-6)

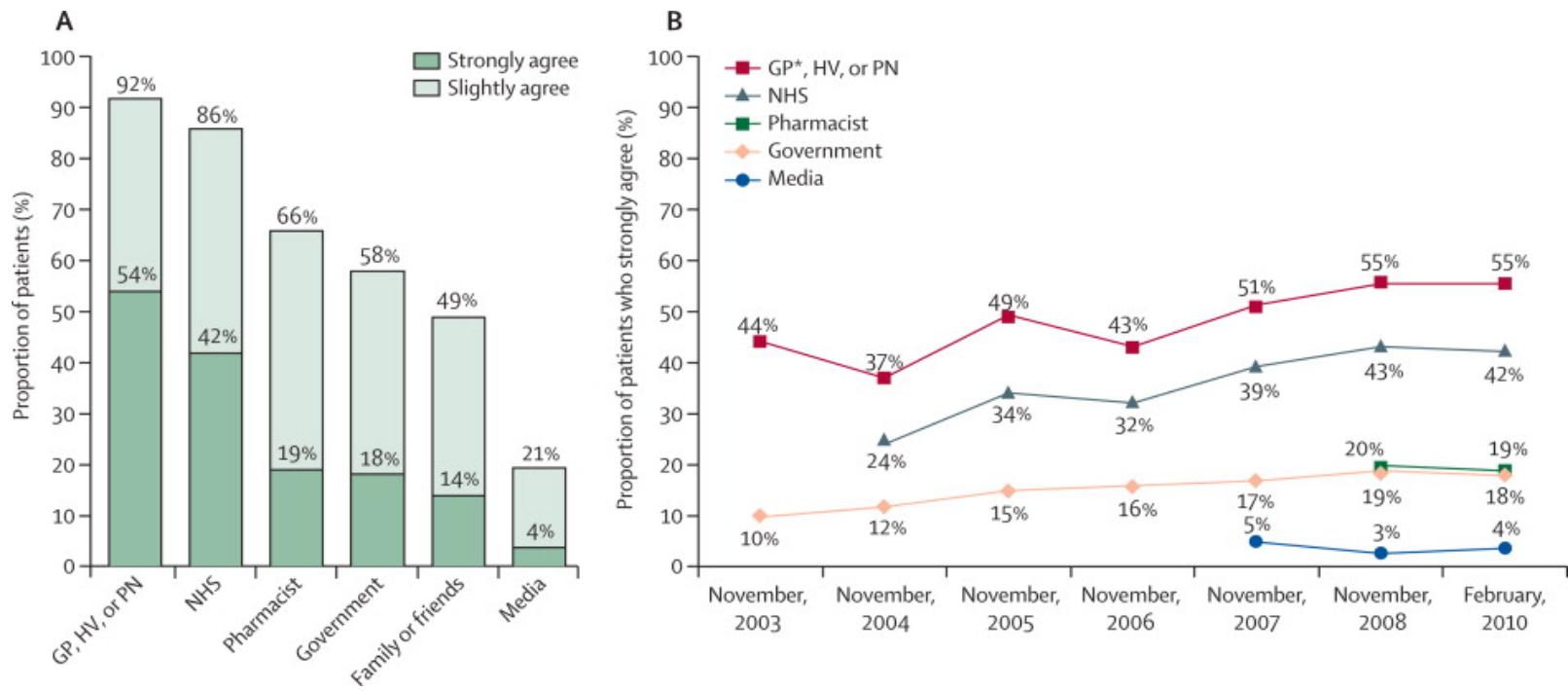


Figure 2 Research into who parents trust Data were provided by David Salisbury (Department of Immunisation, Department of Health, UK). (A) Who parents trust to give advice about immunisation (2010); data are for parents of children aged 0?4 year...

Heidi J Larson , Louis Z Cooper , Juhani Eskola , Samuel L Katz , Scott Ratzan

Addressing the vaccine confidence gap

The Lancet Volume 378, Issue 9790 2011 526 - 535

[http://dx.doi.org/10.1016/S0140-6736\(11\)60678-8](http://dx.doi.org/10.1016/S0140-6736(11)60678-8)

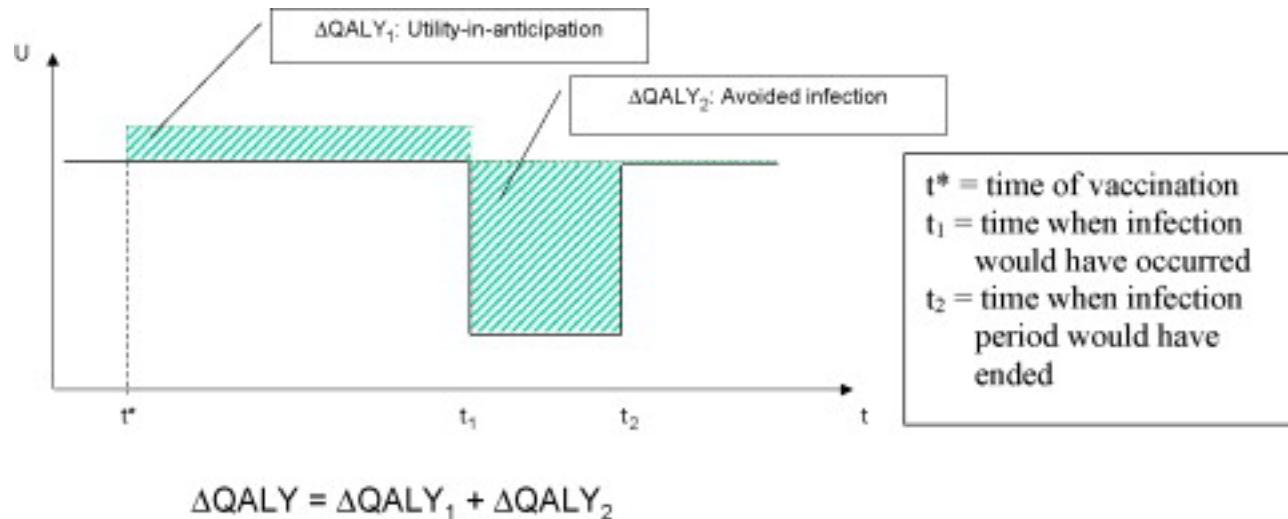


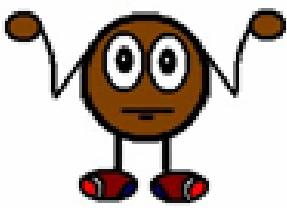
Fig. 1 Illustration of QALY and utility in anticipation.

Michael Drummond , Catherine Chevat , Mickael Lothgren

Do we fully understand the economic value of vaccines?

Vaccine Volume 25, Issue 32 2007 5945 - 5957

<http://dx.doi.org/10.1016/j.vaccine.2007.04.070>



Muchas Gracias