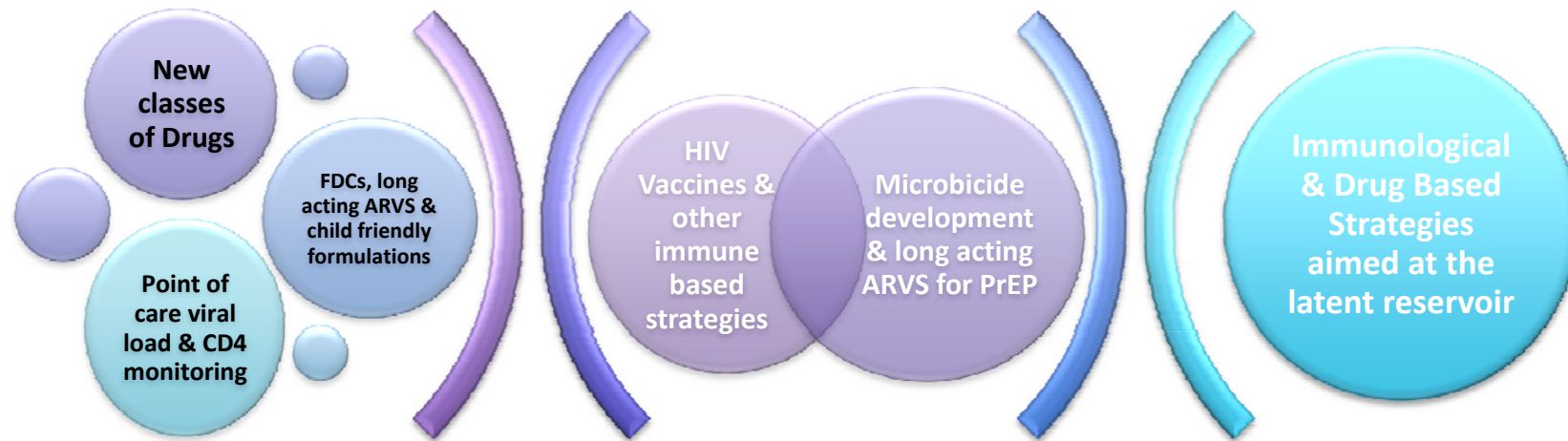


Prevención en VIH

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What we need to end AIDS: controlling viremia



Innovations in the management of HIV that will impact on community viral load and infectiousness: prevention of secondary transmission

Innovations in Prevention that will be required when secondary transmission is not averted

HIV Cure: to enable control by eliminating viremia in those infected

Transmission occurs sub-clinically

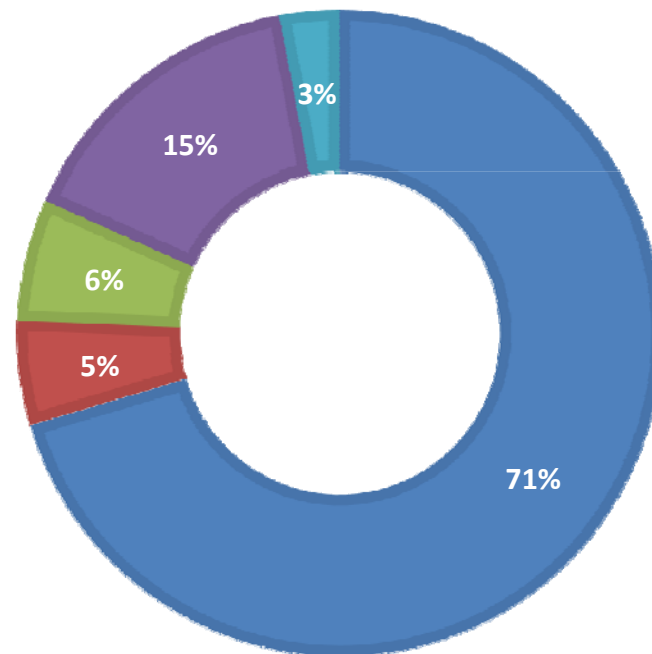
Challenges for making HIV vaccines

- Scientific: highly variable virus that integrates into host genome, rapidly establishing latency, evading both humoral & cellular responses

Limited financial Investment from Private Sector & LMIC countries Limited pharmaceutical support

HIV PREVENTION R&D BY FUNDER TYPE 2013

■ US Public Sector ■ Other Governments ■ European Public Sector ■ Philanthropic ■ Industry

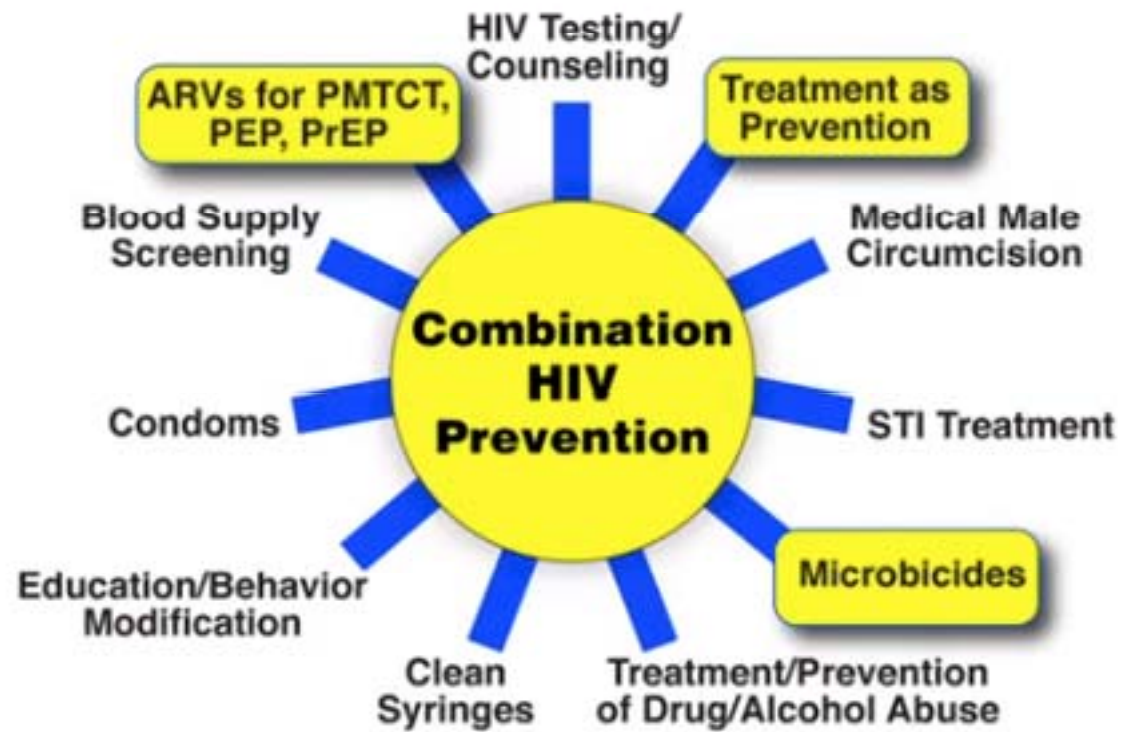


Donaldson E, et al, HIVR4P 2014

This has resulted in only 4 vaccine concepts that have been tested in 6 efficacy trials in 30 years

Clinical HIV-1 Vaccine Efficacy Trials (Barouch & Michael, 2013)

Study/ location	Vaccine/s	Risk Group/HIV incidence	Result
1. Vax003 Thailand	AIDSVAX B/E gp120 in alum	IDUs 3.4%	No VE
1. Vax004 US/Europe	AIDSVAX B/B gp120 in alum	MSM/high risk women 2.6%	No VE
2. HVTN 502 Americas STEP	MRKAd5 HIV-1 gag/pol/nef	MSM/high risk women 3%	Halted for fertility; early transient increased infection in vaccinees
2. HVTN 503 RSA Phambili	MRKAd5 HIV-1 gag/pol/nef	Heterosexual men & women 3.7%	No VE; late increased HIV infection in unblinded male vaccinees
3. RV144 Thailand	ALVAC-HIV vCP1521, AIDSVAX B/E rgp120 in alum	Heterosexual men and women with variable risk 0.28%	31.2% VE @ 42/12; 60% VE @ 12/12
4. HVTN 505	DNA(gag/pol/nef/env) rAD5gag/pol/env (A,B,C)	Circumcised MSM Ad5 neg 1.8% ⁶	Halted at interim analysis for fertility



Challenges in Implementation of PEP: Awareness and Adherence



Awareness of Post-Exposure HIV Prophylaxis in High-Risk Men Who Have Sex with Men in New York City

SA Mehta, JA Aberg, DC Daskalakis, et al.

- Only 36% of high-risk individuals were aware of PEP (or PrEP)

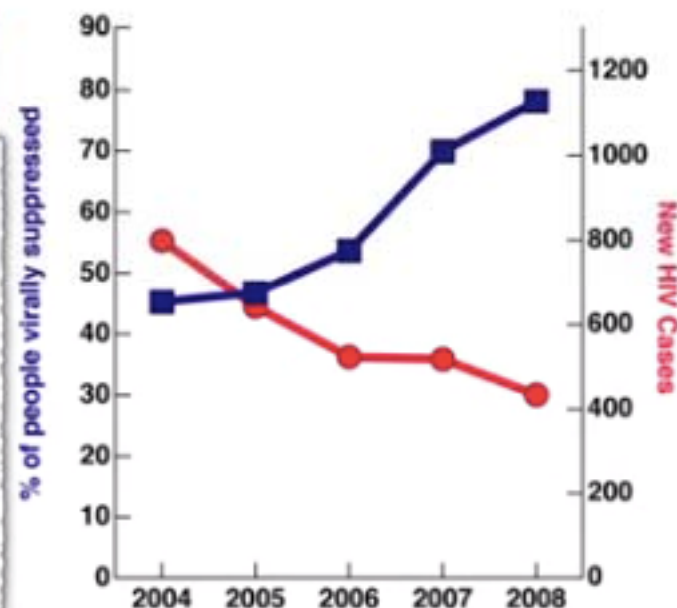


Adherence to HIV Postexposure Prophylaxis: A Systematic Review and Meta-Analysis

N Ford, EJ Mills, A Calmy, et al.

- 43% of eligible individuals fail to complete PEP regimen

Treatment as Prevention in San Francisco



■ When viral suppression rose from 45 to 78%, HIV incidence fell by 45%

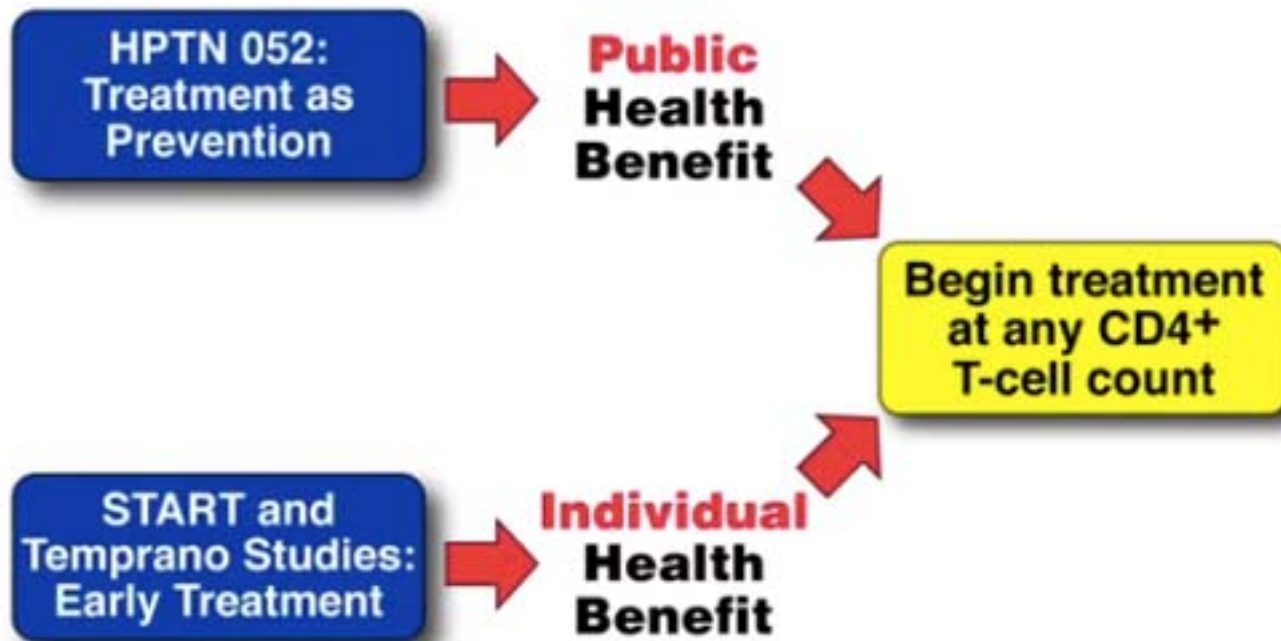


Fig. 5 Objetivos para poner fin a la epidemia de sida

para el
año 2020

90-90-90

Tratamiento

500 000

Nuevas infecciones entre adultos

CERO

Discriminación

para el
año 2030

95-95-95

Tratamiento

200 000

Nuevas infecciones entre adultos

CERO

Discriminación

Fig. 6a Nuevas infecciones por VIH en países de ingresos bajos y medios, 2010-2030, tras alcanzar las urgentes metas ambiciosas, versus la continuación de la cobertura a 2013

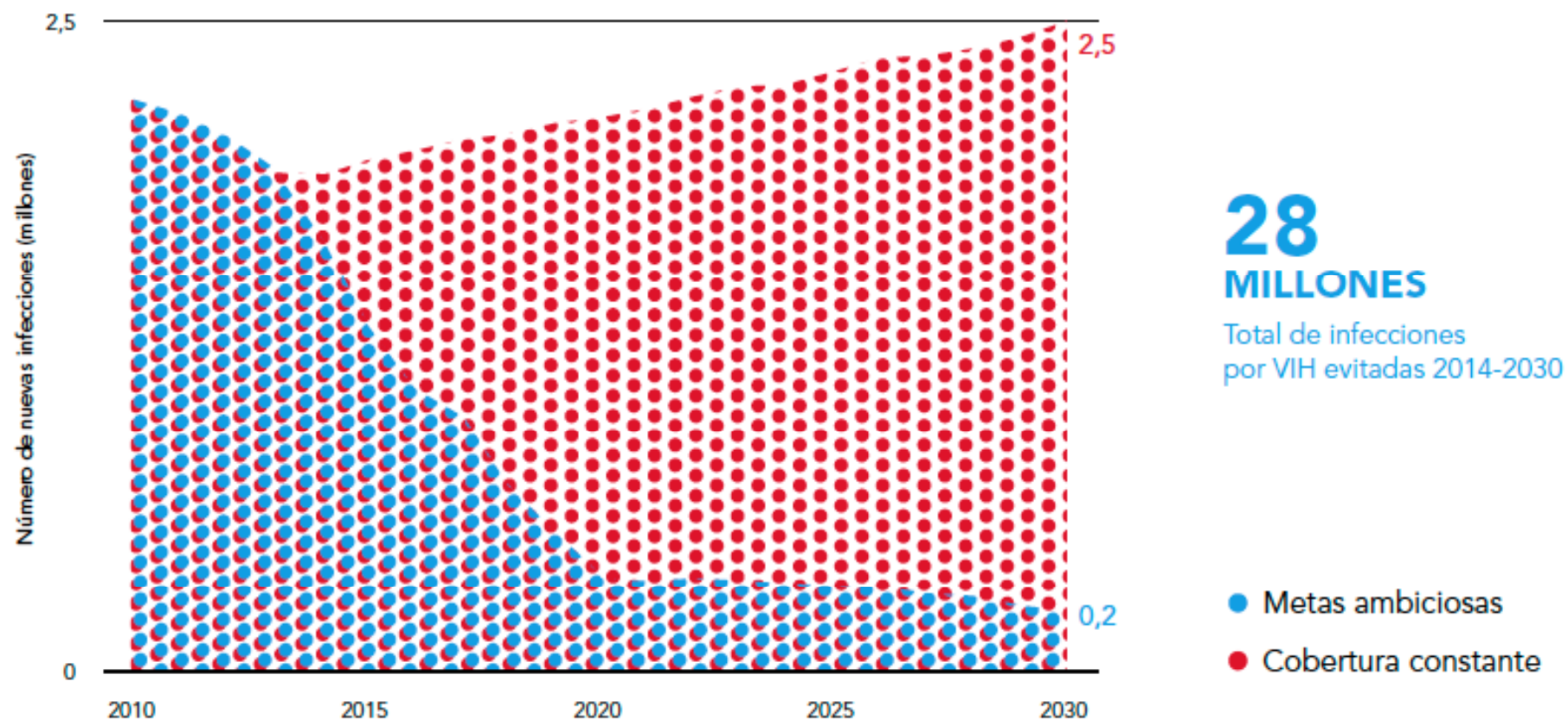
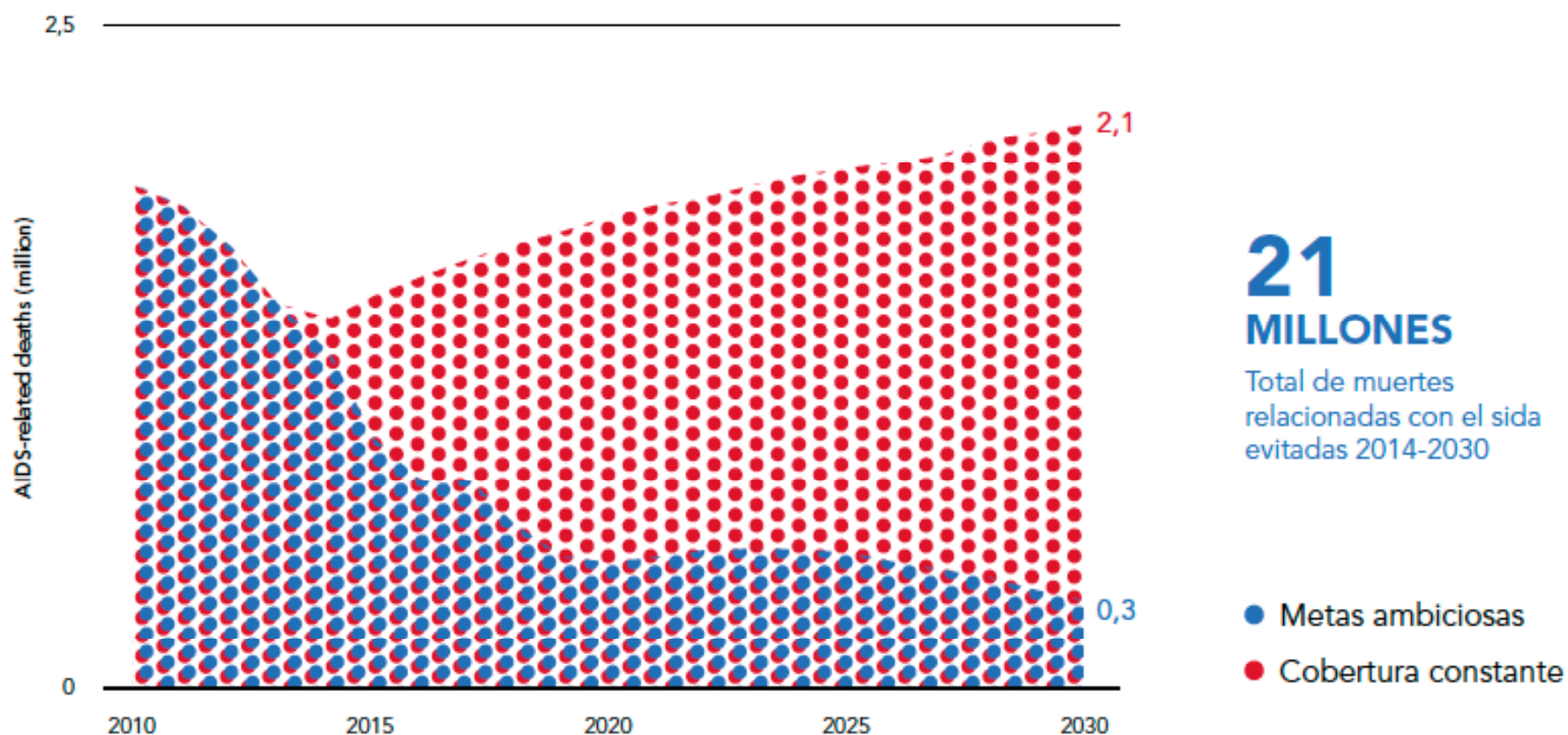


Fig. 6b Muertes relacionadas con el sida en países de ingresos bajos y medios, 2010-2030, tras el logro de las urgentes metas ambiciosas, versus mantener la cobertura a 2013



Resumen

- Es importante trabajar con el objetivo final de acabar con la epidemia
- La investigación sobre una vacuna preventiva es importante, aunque en años no dispondremos de ninguna
- Hay que trabajar con las herramientas que tenemos:
 - Detección precoz
 - cART