



DISEASE CONTROL
PRIORITIES PROJECT



HIV/AIDS Prevention and Care

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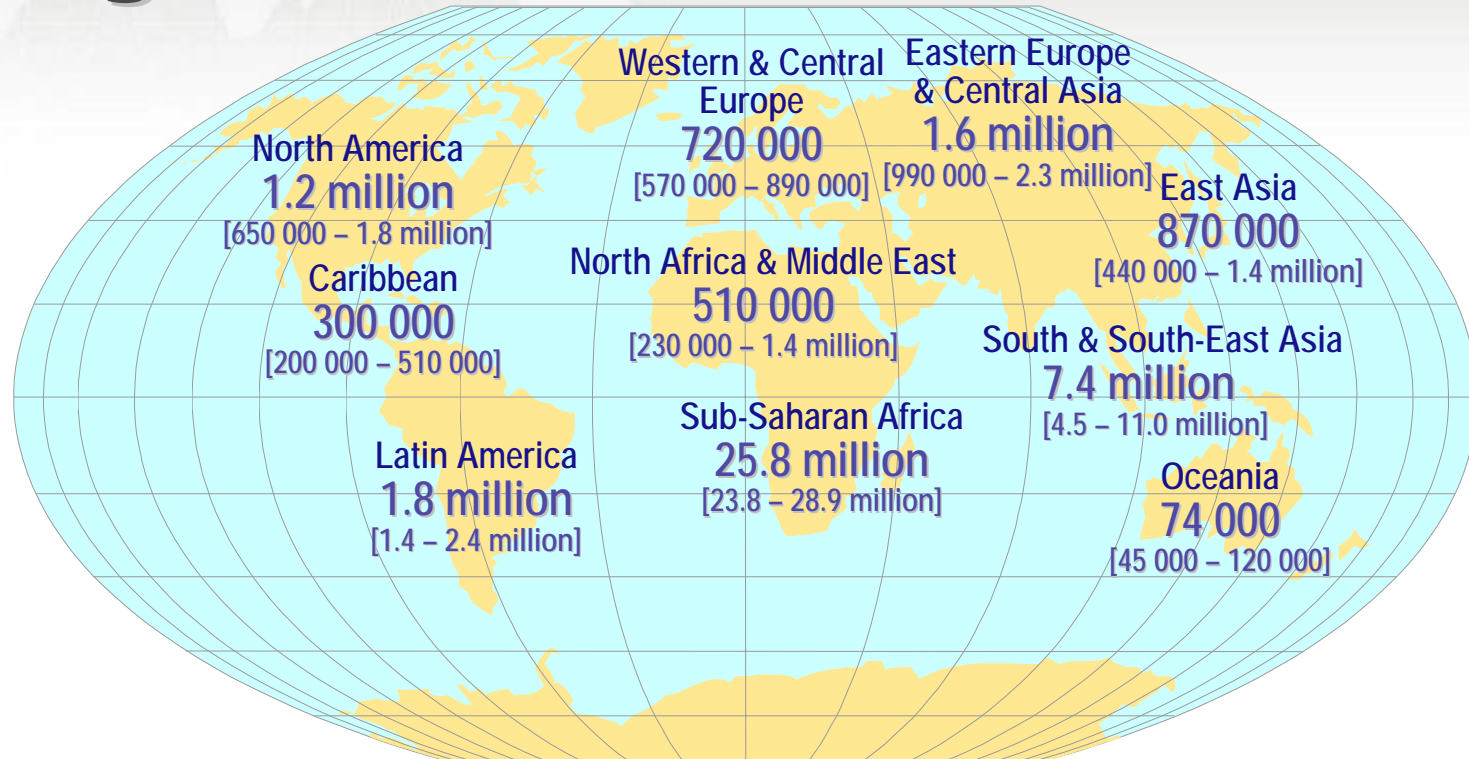
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INVESTING IN GLOBAL HEALTH "BEST BUYS" AND PRIORITIES FOR ACTION IN DEVELOPING COUNTRIES

www.dcp2.org

Adults and children estimated to be living with HIV as of end 2005



Total: 40.3 (36.7 – 45.3) million

Source: UNAIDS. AIDS Epidemic Update 2005



Rates of HIV in China

If the epidemic is left unchecked, the number of people living with AIDS in China could reach 10 million by 2010.

HIV and AIDS estimates, end 2005

National HIV prevalence rate	0.05% (range: 0.04%-0.06%)
Adults and children (0-49) living with HIV	650,000 (range: 540,000 – 760,000)
New Infections in 2005	70,000 (range: 60,000 – 80,000)
AIDS deaths (adults and children) in 2005	25,000 (range: 20,000 – 30,000)

Source: [2005 Update on the HIV/AIDS epidemic and Response in China](#)



Prevention

Potential of HIV prevention: National Success Stories

- Thailand's 100% condom program
- Uganda's remarkable decrease in HIV prevalence and incidence
- Senegal's sustained success in minimizing HIV incidence
- Zimbabwe's declining prevalence due to behavior change

Successful National HIV Prevention Strategies

Common Threads:

- High-level political leadership
- Engagement of civil society and religious leaders
- Open communication regarding sex
- Combat stigma and discrimination
- Interventions based on epidemic profile
 - Target “key” (e.g: IDUs, MSMs, SW and clients) populations as appropriate

Lessons learned from successful national strategies: Data for effective prevention programs

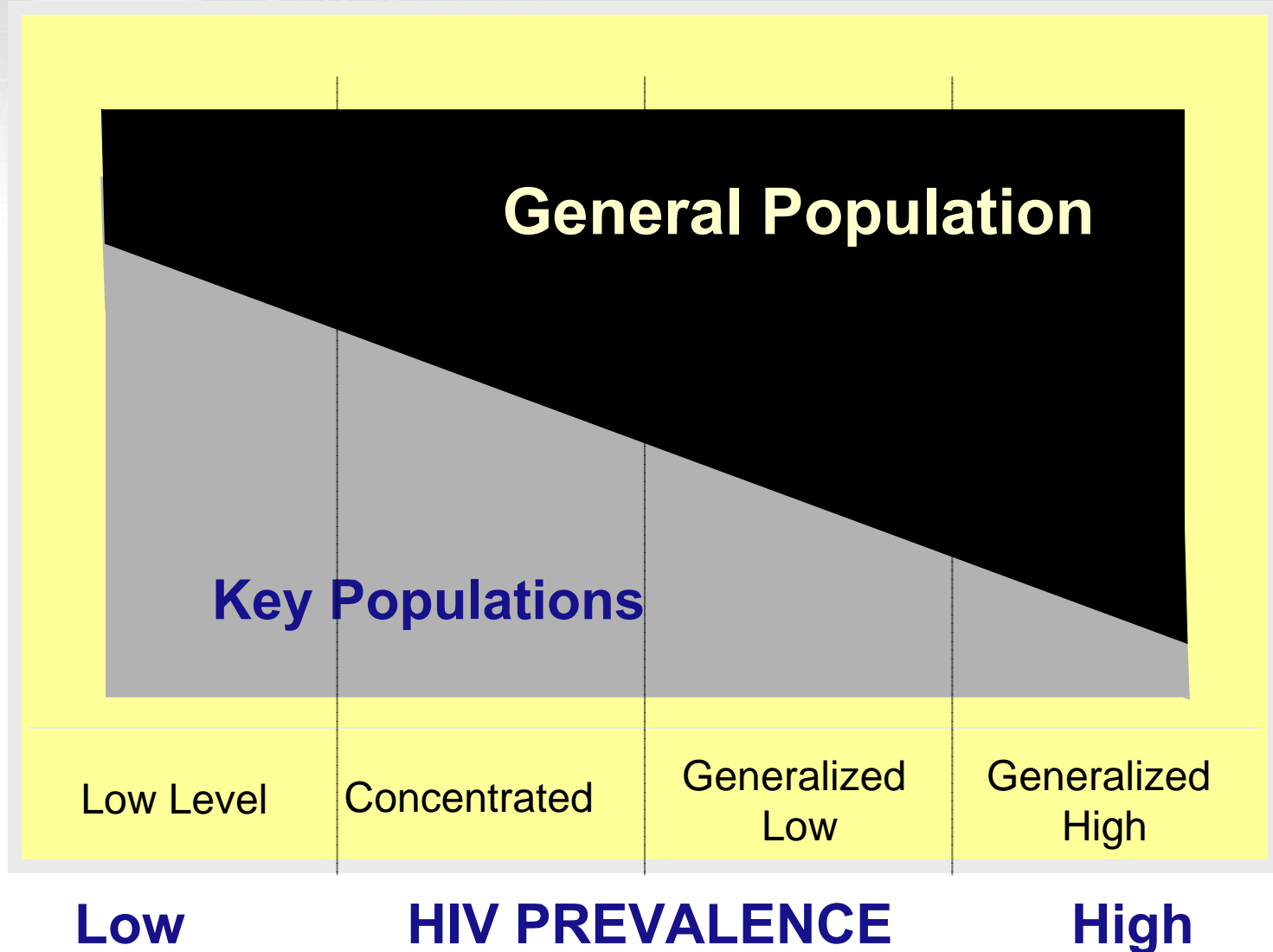
- Environmental and contextual factors
 - e.g. sociocultural, economic and legal factors that condition risk behavior
- Knowledge of epidemic profile:
 - Distributions and trends of HIV and STD infections
 - Prevalence and distribution of risk behaviors
- Effectiveness and cost effectiveness of interventions in different contexts
 - Including the ability to implement interventions efficiently

Epidemic Profiles

<u>Extent of HIV Infection</u>	<u>Highest prevalence in a key population</u>	<u>Prevalence in general population</u>	<u>WHO region</u>
Low level	<5%	<1%	Middle East and North Africa
Concentrated	>5%	<1%	E Asia & Pacific, Europe & Central Asia, South Asia, Latin America & Caribbean
Generalized low level	≥5%	1-10%	Sub-Saharan Africa
Generalized high level	≥5%	≥10%	Sub-Saharan Africa

“Unified Prevention Theory”

Prevention Interventions



Interventions differ across epidemic profiles: Condom promotion

	<u>Condom Promotion</u>
<u>Low-level Epidemic</u>	Address market inefficiencies in condom procurement and focus distribution on key populations
<u>Concentrated Epidemic</u>	Intensify distribution and promotion to key populations and link to VCT and STI care
<u>Generalized Low-Level Epidemic</u>	Subsidize social marketing of condoms: strengthen distribution to ensure universal access
<u>Generalized High-Level Epidemic</u>	Promote condom use and distribute condoms free in all possible venues



What Works? Evidence for Effectiveness and Cost-Effectiveness

	Effectiveness	Cost-Effectiveness
Surveillance	None	None
IEC	None	None
School-based education	—	—
Abstinence education	—	—
VCT	++	++
Peer-based programs	++	++
Condom promotion, distribution & IEC	++	+
Condom social marketing	?	?
STI Treatment	++	++

What Works? Evidence for Effectiveness and Cost-Effectiveness (cont)

	Effectiveness	Cost-Effectiveness
ART to reduce MTCT	++	++
MTCT, feeding substitution	+	None
Harm reduction, IDUs	++	++
IDU Drug substitution	?	None
Blood Safety	++	++
Universal Precautions	++	None
ART for PEP	+	-
Vaccines	?	None
Behavior Δ for HIV+'s	+	None

Levels of evidence: What works for prevention?

- In 2005 there were more new infections than any year to date
- Good evidence that targeted prevention works in concentrated and generalized low-level epidemics
- Less clear for low-level and generalized high epidemics
- Deficit of cost-effectiveness data for all epidemic profiles
- Little evidence about the impact of combination interventions
- Little evidence for contextual or structural interventions

Interventions in the Pipeline or in Trial

- Microbicides
- Diaphragms
- Circumcision
- Community-based VCT
- HSV-2 treatment
- Tenofovir for pre-exposure use (PREP)
- ART to prevent sexual transmission
- Vaccines
- Behavior change programs for people with HIV



Care and Treatment

Principle Care Interventions

- Palliative Care
- Antiretroviral (ART) therapy
 - Laboratory testing and monitoring
- Tx and Prophylaxis for OIs

Palliative Care

- Strategies for end of life care:
 - Community home based care most cost-effective
- Pain management:
 - Inexpensive options available, but significant barriers to access
- Psychosocial support provides coping skills that can bolster adherence
- Nutritional support: also a prerequisite for effective ART

Antiretroviral Therapy

- Significant reductions in ART drug prices
- Commitment to scaling up of ART among international agencies and national governments
- Outstanding concerns regarding quality of scale up
 - Insufficient investment in health care infrastructure, in provider education and in regulation/monitoring/evaluation

ART Level of Coverage

- In 2006, 3 million people will likely be covered by ART— meeting 41% of total need
- By 2008, it is projected that 6.6 million will be reached (63% of total need)

Source: UNAIDS. *Resource needs for an expanded response to AIDS in low and middle-income countries.* 2005

Adherence to ART

- Major problem worldwide, especially in Low and Middle Income Countries
- Effective treatment response requires very high adherence
- Haiti and Uganda successes using modified DOT
- Research needed on how to maintain high levels of adherence in different socio/cultural/economic settings

Laboratory Monitoring

- Informs:
 - When to initiate ART
 - Primary resistance
 - Patient response to therapy
 - Toxicity due to therapy
- Significant proportion of care costs
- Additional research needed for optimal frequency and types of tests used

Role of ART in Relation to Opportunistic Infections

- Antiretroviral therapy reduces viral load and enables immune restoration
 - Prevents the onset and recurrence of opportunistic infections
- Benefit of OI treatment is enhanced when combined with ART
 - Increased efficacy and cost effectiveness

Research Agenda :

- Rigorous evaluations for all interventions
 - of effectiveness and cost
- Best combination of prevention and treatment for each epidemic profile
- How best to scale-up successful strategies
- Simplified treatment regimens and low-cost, low-tech methods for ensuring adherence, monitoring toxicity, and treatment response

Conclusions

- Magnitude and seriousness of the global pandemic calls for action, even in the absence of definitive data.
- Interventions must be tailored to the epidemic profile and local context.
- Absence of firm data results in inefficient investments.
- This waste exacerbates funding shortfalls and results in unnecessary HIV infections and premature deaths.

Conclusions (cont)

The lack of good data is understandable when the burden of disease is minimal and the resources dedicated to it are similarly small

Neither is the case for HIV/AIDS



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