



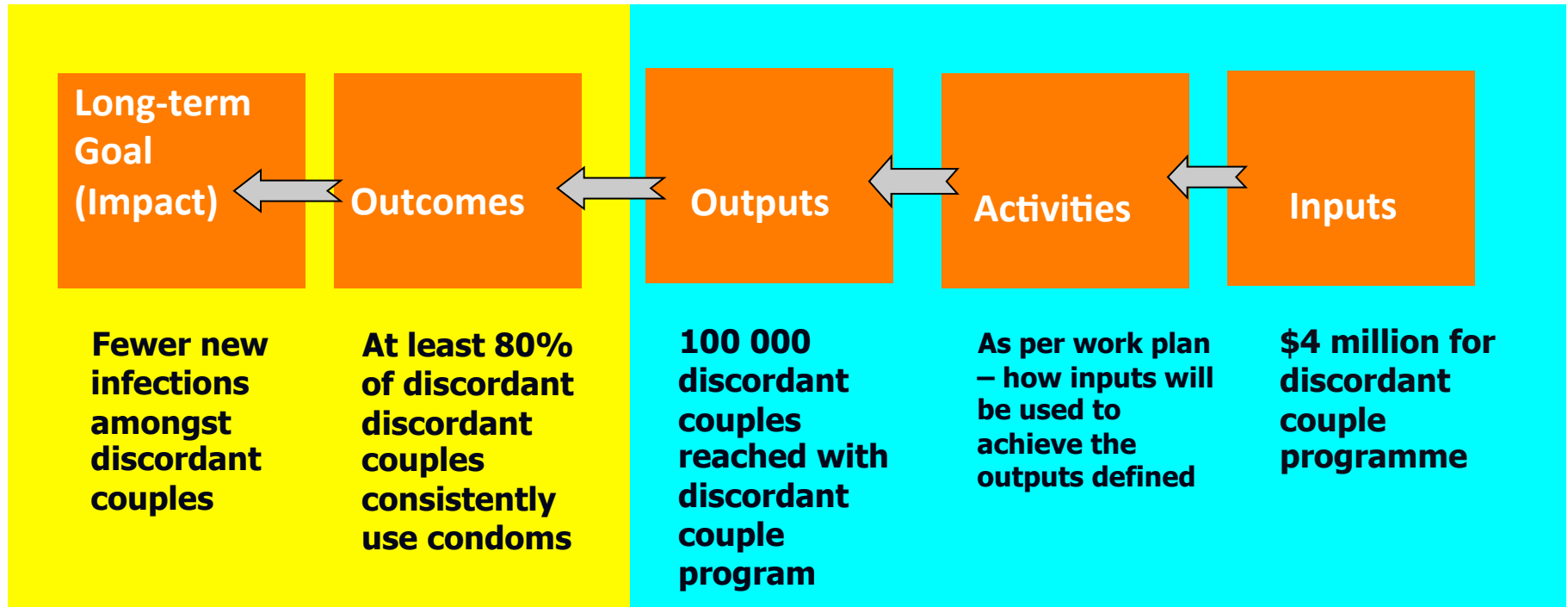
How program science can help to create effective and efficient HIV responses

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The World Bank Global HIV/AIDS Program



The World of Policy Makers & Programmers



Program Science in the Everyday World of Policy Makers and Program Implementers

Decide WHAT we want to achieve

- Know and link your epidemic
- Know and link your evidence
- Know and link your response

HOW we will achieve it

- How and where to implement
- Quality standards
- Who will implement it
- Supervision and implementation support arrangements
- Efficiency of implementation

How do we know whether we've been successful

- Tracking implementation progress
- Tracking efficiency of implementation
- Tracking individual level impact
- Estimating population-level impact

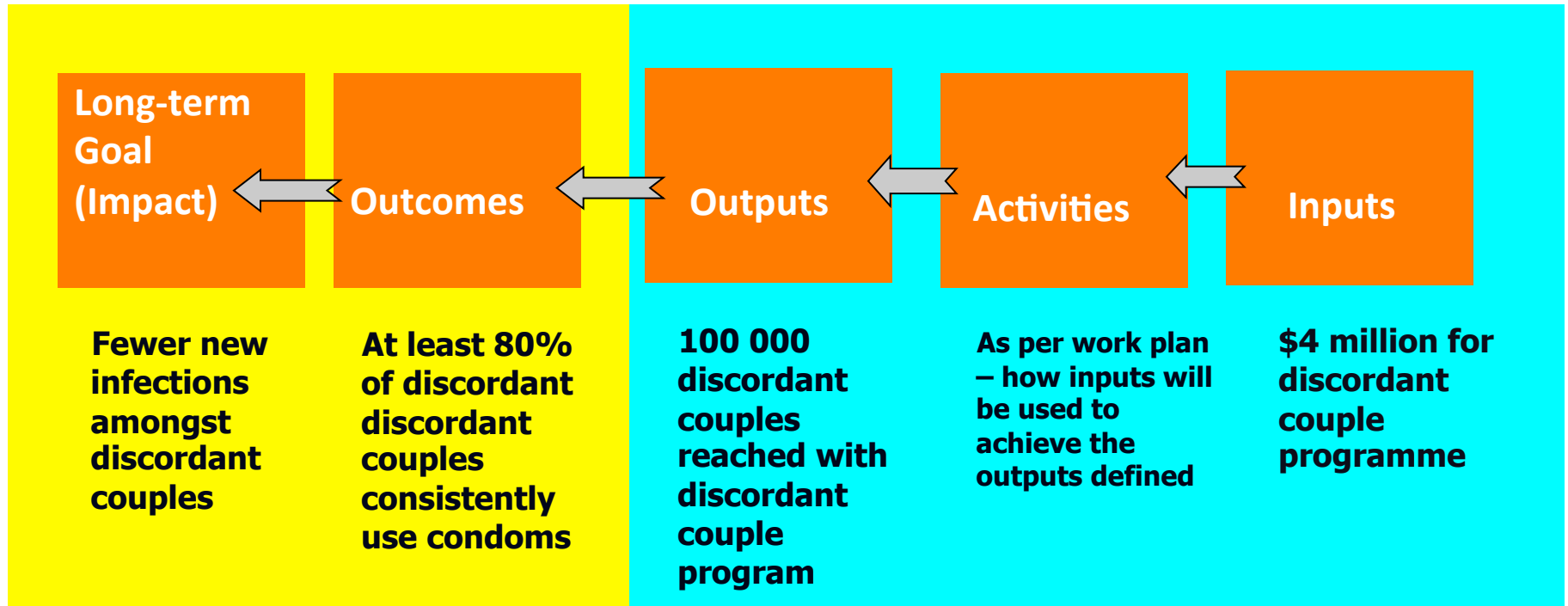


The World of Policy Makers & Programmers

Measuring whether we've been successful

How to achieve it

What to achieve?





Decide WHAT to achieve

- **The science of program prioritisation**
- **Know and link your epidemic**
 - How do we do this? Modeling?
 - Beyond characterisation: who is at risk? Where are they? Which interventions to reach them with?
 - Results-based approaches: start with a theory of change – need to move beyond that to a theory of evidence
- **Know and link your evidence**
 - Which evidence? Which evidence is ‘good enough’?
- **Know and link your response**
 - Conundrum of consensus
 - ‘We must do something, this is something, let’s do it’



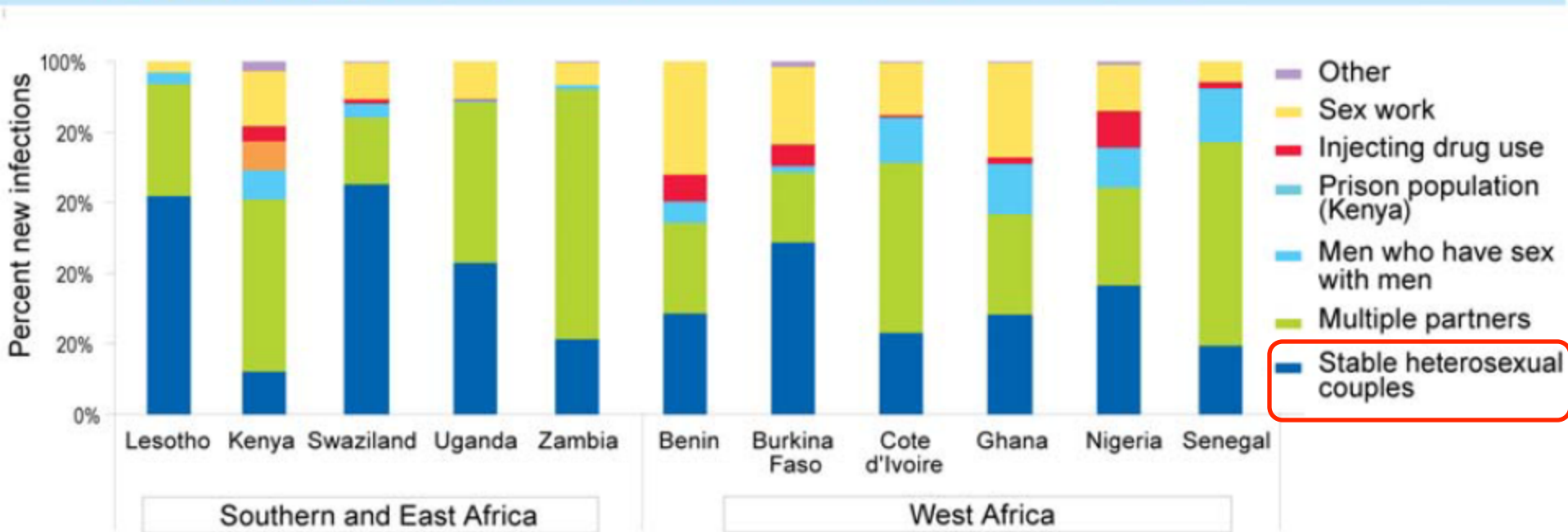
Conundrums in Program Prioritisation:

Experience from Africa



MOT results from selected countries in Africa (Zimbabwe and South Africa not included)

1.2 Focusing on: modes of transmission in sub-Saharan Africa



Source: UNAIDS 2010



MOT's intent in HIV prevention decision making

- To better understand sources of new infections
- To focus HIV prevention efforts where it will work best
- To AID efforts to better allocate prevention resources where the money is most needed
- To avert more new infections



To do this, the MOT model structure assumes the following potential sources of adult new

- Sexual contact
 - Commercial sex
 - Casual sex (more than one partner per year)
 - Marital sex ('only one partner per year'; 'low risk heterosexual sex')
 - Men who have sex with men
- Injecting drug use
- Blood transfusions
- Medical injections



Confusing interpretations about this category

- Persons who have only one partner a year are:
 - **Not** necessarily in a stable union
 - **Not** necessarily married
 - **Not** necessarily in a discordant couple partnership
- How is it calculated for modeling purposes?
 - Arithmetically – total percentage has to add up to 100%, so this category is what remains when everything else has been estimated



Marriage and cohabitation levels in different parts of the world

Country	% of men married or cohabitating
Benin, 2006	64%
Congo B, 2005	51%
Congo DRC	56%
South Africa	49%
Swaziland	23%
Namibia	31%
Botswana	34%
India	84%
Bangladesh	95%

Source: DHSs from different countries



....and recommends the following priority programmes for implementation



Priority populations and programs

Route	Population	Intervention
Sex work	SW and clients	Out-reach, condoms, STI Treatment
Casual sex	Youth, military, truckers, etc.	Out-reach, condoms, STI
Low risk	Married couples	Promote testing
IDU	IDU	Risk elimination, harm reduction
MSM	MSM	Out-reach, condoms, STI Treatment
Injection	Patients	Sterile needles
Blood	Transfusion recipients	Screening
Mother-to-child	Pregnant women	PMTCT



Has MOT achieved its stated purpose?

Four case studies of HIV prevention program decisions that have been made based on MOT modeling results



MOT in Eastern and Southern Africa has led to....

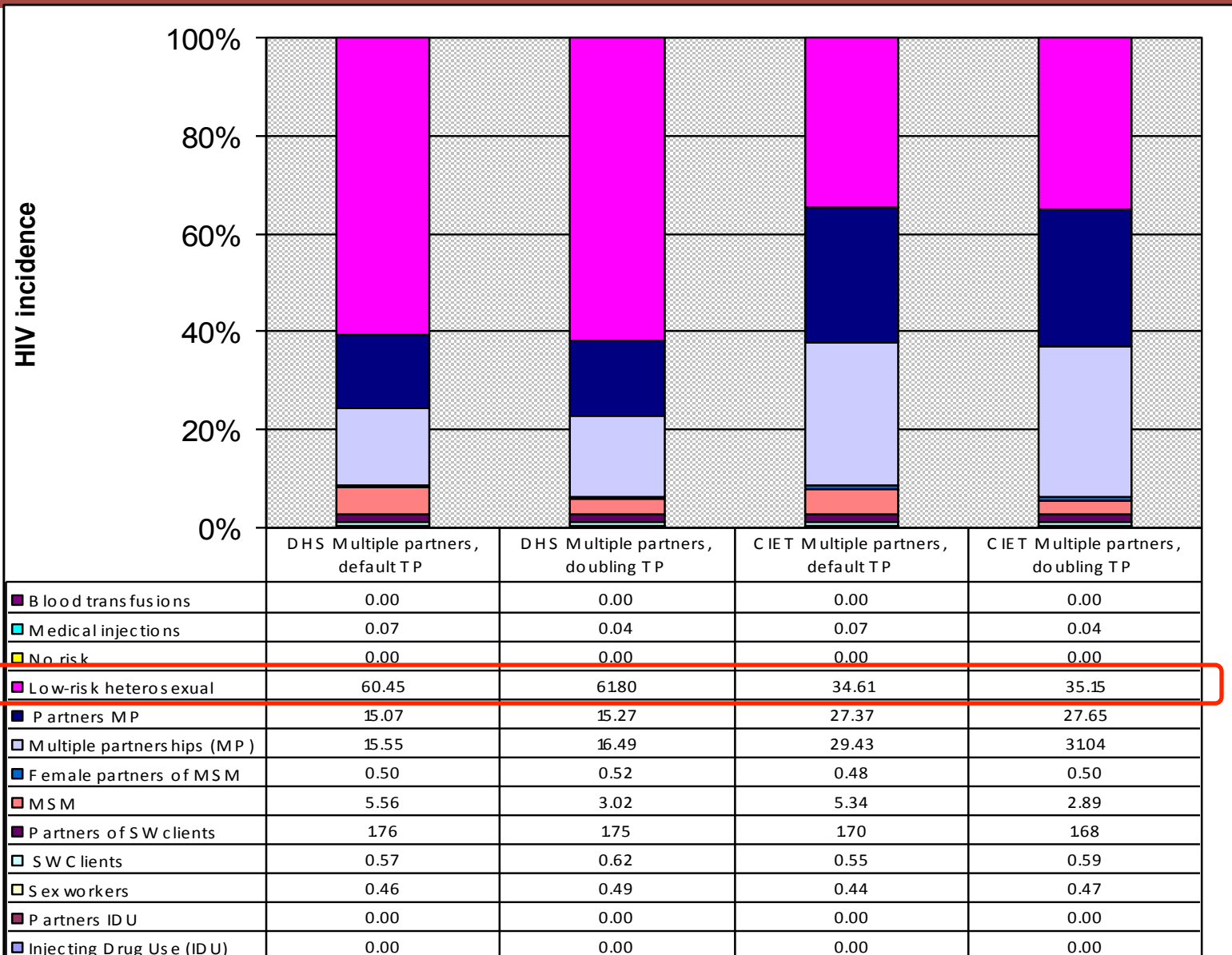
1. Allocations of increased amounts of funding to programs that don't work: **Lesotho**
2. An important misunderstanding about sources of new infections: **Uganda**
3. Wastage of resources on non-priority data collection efforts: **Swaziland**
4. Blind belief in the 'magic' of a model; and restating what everyone knew: **Zimbabwe**



The case of Lesotho

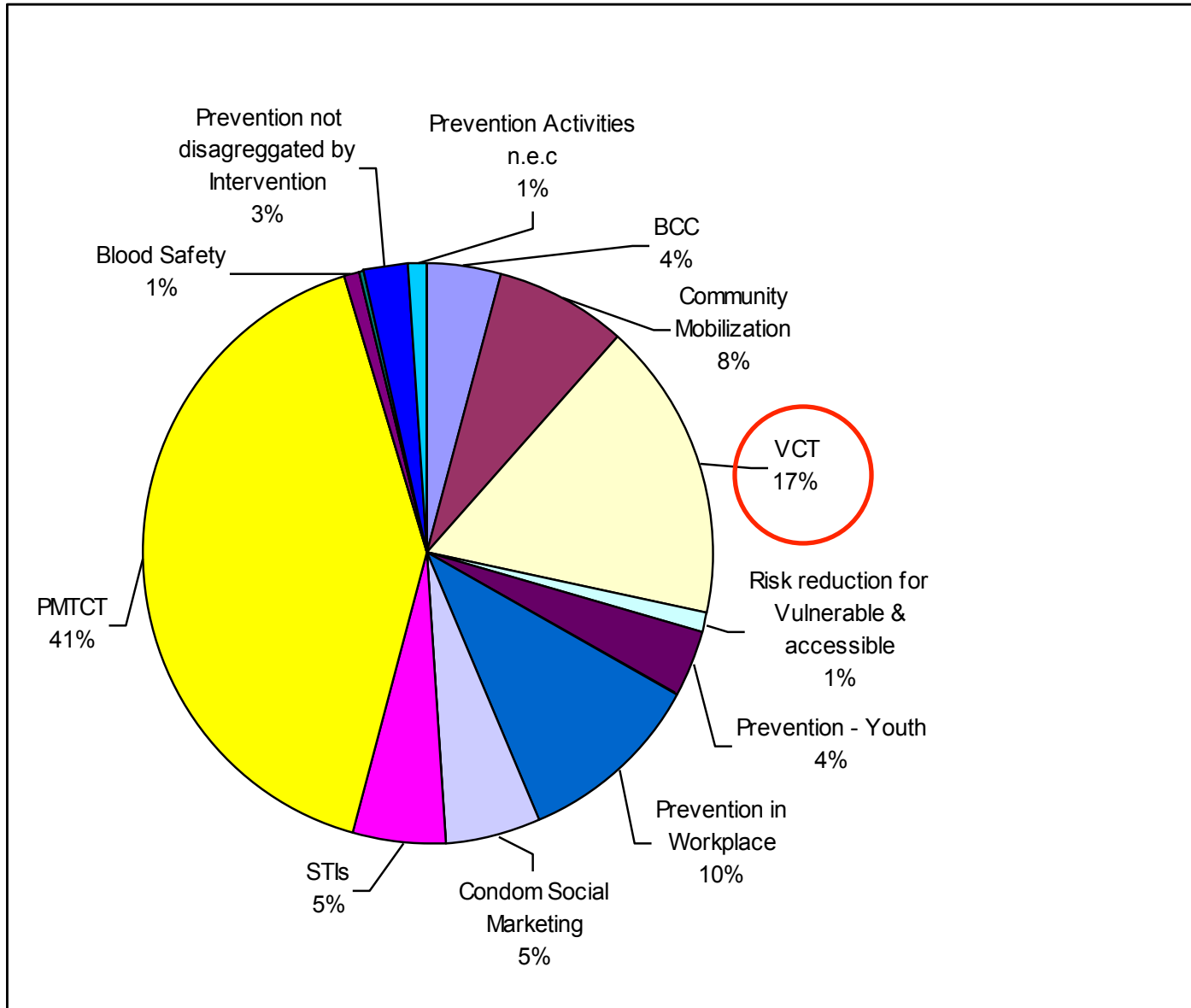


Lesotho MOT results



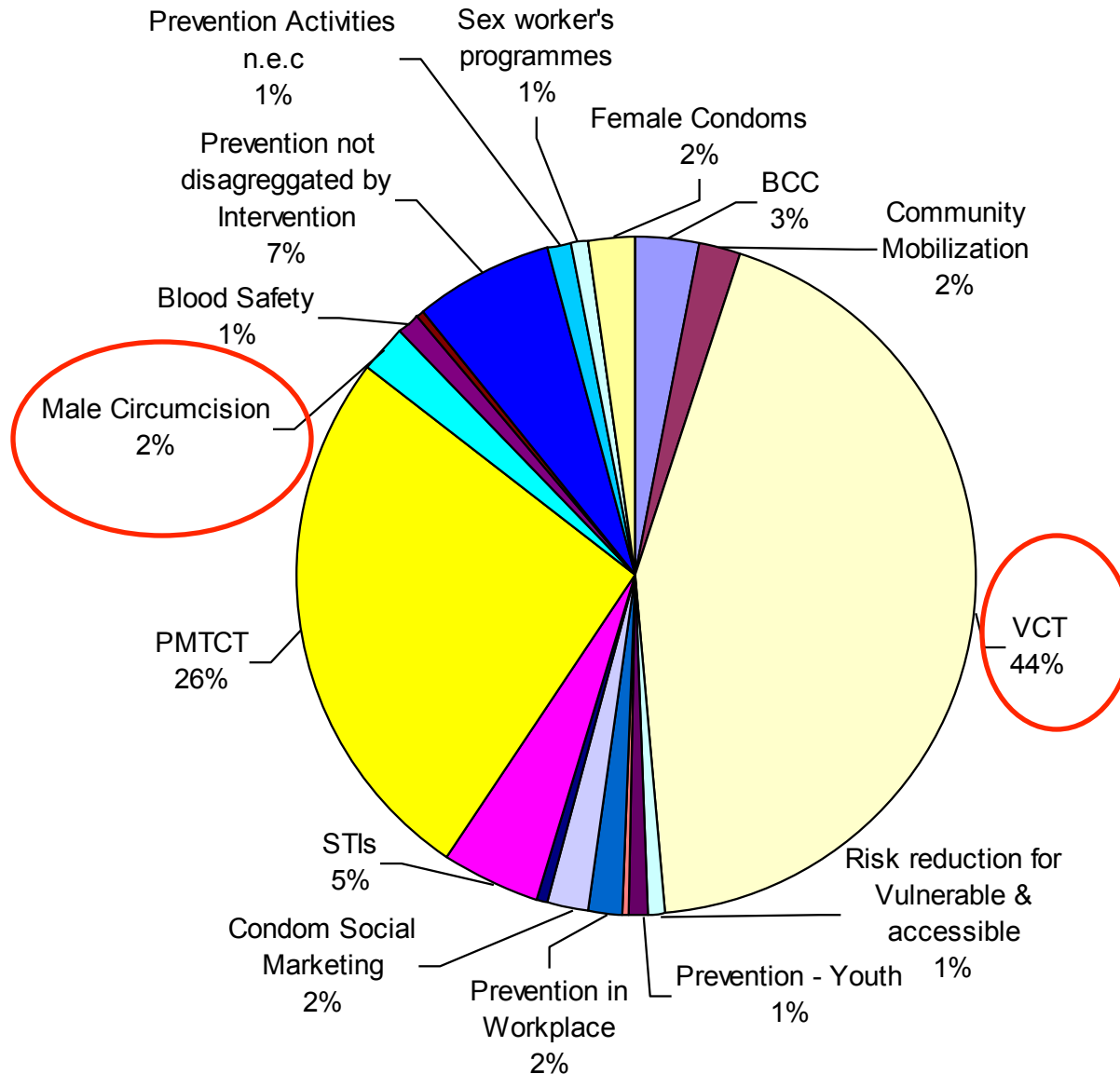


Lesotho NASA in 2007/08





Lesotho NASA in 2009/10





The case of Uganda

Uganda's MOT results

Mode of Transmission	Total number with risk behaviour	as percent of total population	New infections, 2008	% of total incidence
Injecting Drug Users (IDU)	994	0.00%	258	0.28%
Partners of IDU	252	0.00%	10	0.01%
Sex workers (SW)	32,652	0.30%	833	0.91%
Clients	189,381	1.50%	7,172	7.83%
Partners of Clients	108,676	0.80%	1,660	1.81%
MSM	3,976	0.00%	559	0.61%
Female partners of MSM	1,569	0.00%	92	0.1%
Multiple partnerships (MP)	1,808,919	13.90%	21,722	23.73%
Partners MP (PMP)	1,417,881	10.90%	19,925	21.76%
Mutually monogamous heterosexual sex (MM)	6,022,317	46.10%	39,261	42.89%
No recent risk	3,474,169	26.60%	0	0
Medical injections	13,060,787	100.00%	54	0.06
Blood transfusions	134,053	1.00%	0	0

Infections in Uganda in 2008: 91 546



Conclusions drawn from the MOT results

1. Who is at risk? *All married adults*
2. The only way that mutually-monogamous couples could get infected with HIV, is if one is already HIV positive when relationship started, therefore:
 - Discordant couples should be a main target population
 - Fuelled by data from couple VCT sessions: 20 – 35% of couples attending VCT are discordant
3. Therefore couples VCT as a priority for prevention
4. Key message: **“Marriage is the greatest risk factor for HIV.”**



Yet, other evidence does not support these conclusions

1. Far fewer discordant couples in the general population than what couples VCT data suggest (Uganda AIS 2004/5):
 - **36%** of women and **47%** of men are neither married or in cohabitating relationships
 - Only **5%** of married/cohabitating persons are in discordant couple relationships
 - Therefore, approx 122 000 discordant couples in Uganda
 - Rakai data supports this notion of fewer discordant couples

	% of population
Not currently married/in consensual relationship	39%
Currently married/in consensual relationship	61%
<i>Concordant HIV-negative couples</i>	39%
<i>Discordant couples</i>	2%
<i>Unknown partner status</i>	20%



Yet, other evidence does not support these conclusions

- *Yet, according to MOT, discordant couples contribute to over 39000 new infections a year*
 - *So in 3 years, almost half of new infections (49%) would have disappeared as discordant couple transmission is an epi dead end*
2. Made even more improbable by the reality that not all discordant couples infect each other
- **27%** to **36%** could not be traced to index partner (Donnell et al 2010; Celum et al. 2010)



Data from Rakai cohort in Uganda (new infections between 2003/4 to 2007/8) also confirms that discordant couple transmission as a main source of new infections is unlikely

Proportion of new infections in this sub-population	
Not currently married/in consensual relationship	43%
Currently married/in consensual relationship	57%
<i>Concordant HIV-negative couples</i>	26%
<i>Discordant couples</i>	14%
<i>Unknown partner status</i>	17%

27% to 36% could not be traced to index partner (Donnell et al 2010; Celum et al. 2010)

Source: Gray et al. 2011

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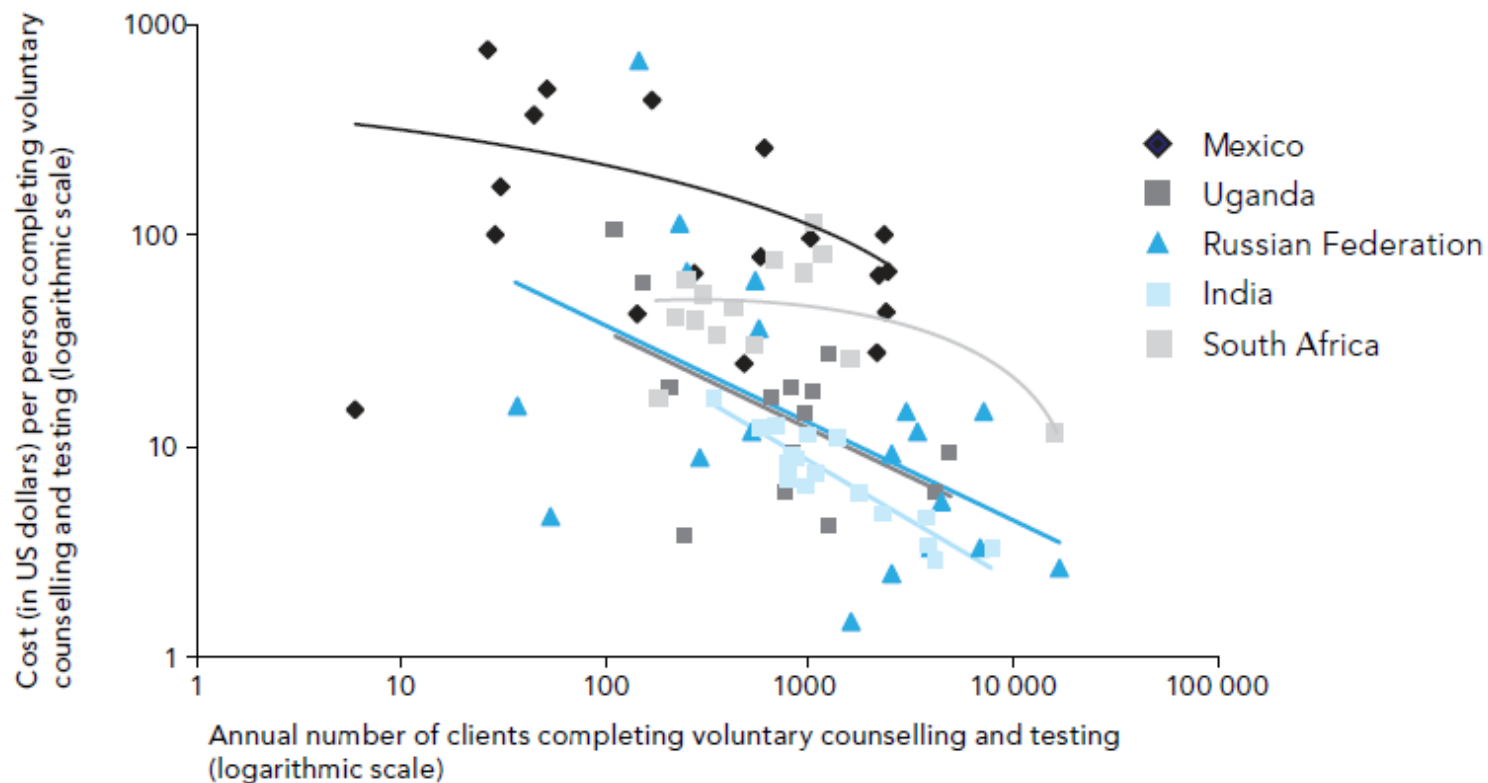
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Program efficiency: Implement for lower cost without compromising quality



Source: Marseille et al. (18)



What do we know about implement programme-efficient HIV response in SSA?

- Of all data published on program efficiency:
 - BCC: 38%
 - PMTCT: 14%
 - Treatment: 10%
 - Male circumcision: 2%
- Studies focused on:
 - The general population 23%
 - Pregnant women 15%
 - PLHIV 10%
- Significant data gaps: research evidence of programme efficiency of programmes for MARPs, discordant couples and non-regular partnerships



HOW to achieve it

- **The science of program implementation**
- Need to design and implement technically-efficient responses:
- Technical efficient responses are efficient in these areas
 - **Service Delivery Efficiency:** unit costs, variations and distributions of unit costs, production chain of service delivery, linkages and referrals
 - **Institutional Efficiency:** Leadership, planning, ownerships
 - **Transactional and administrative Efficiency:** What volume, how long, through which channels for funding to reach service delivery points
 - **Information and Data Efficiency:** Data flows, data use

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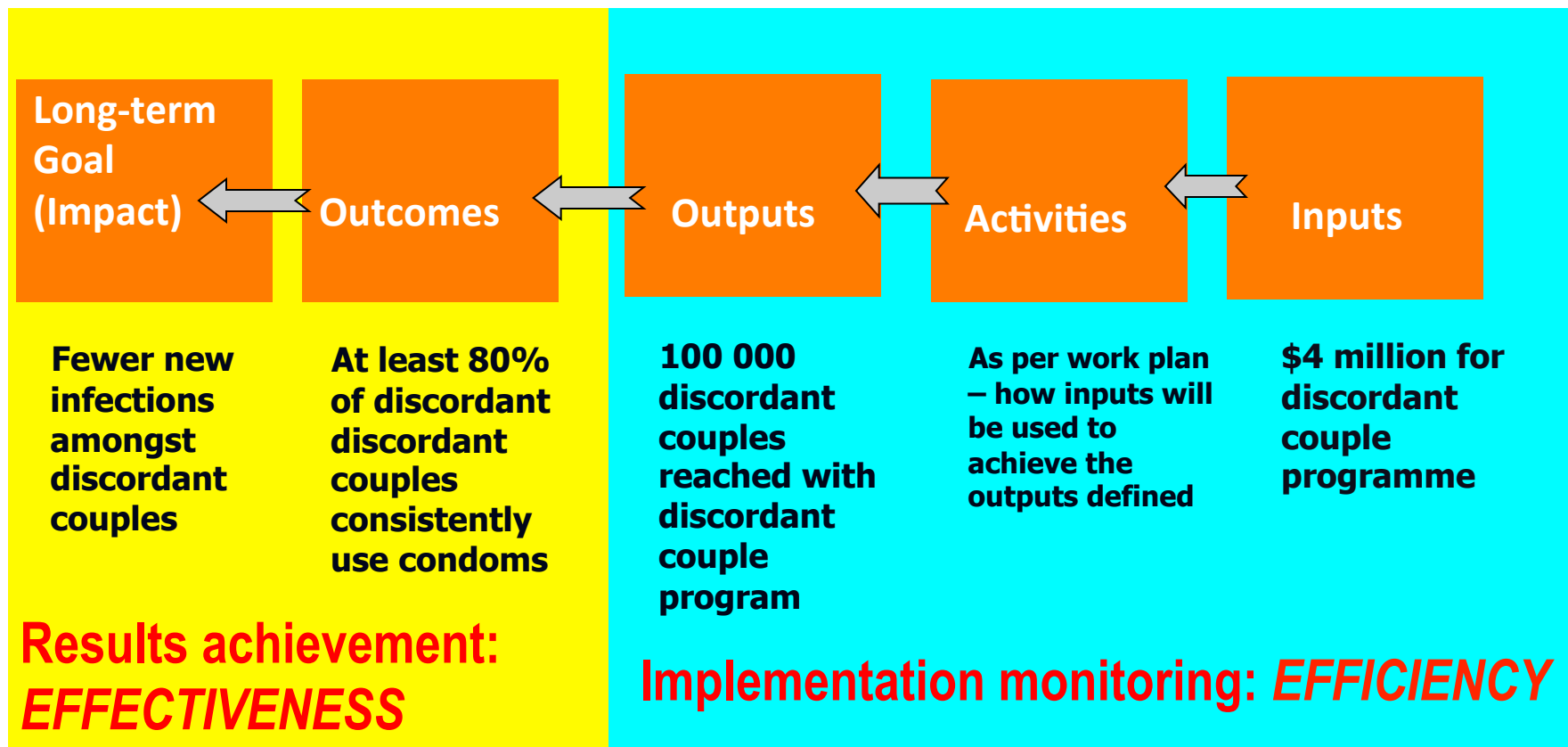


Knowing whether we've been successful

- The science of performance management, measurement, and evaluation
- In addition to intervention effectiveness and epidemic type....
 -Need efficient HIV responses, implemented to scale, for the right populations*
 -Measured and adjusted as needed*
- This requires a complementary focus on efficiency and effectiveness

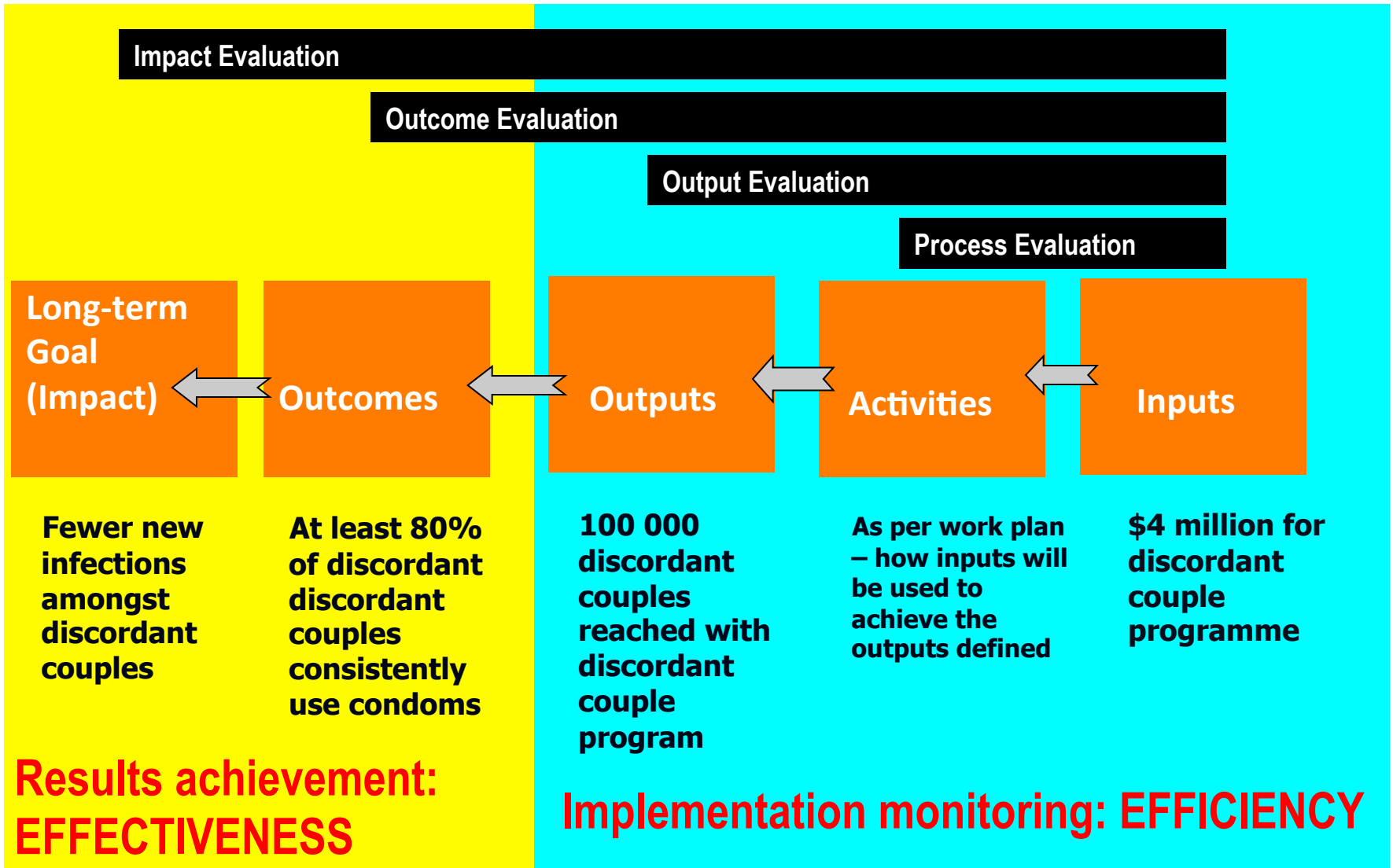


Thinking as a Policy Maker / Programmer



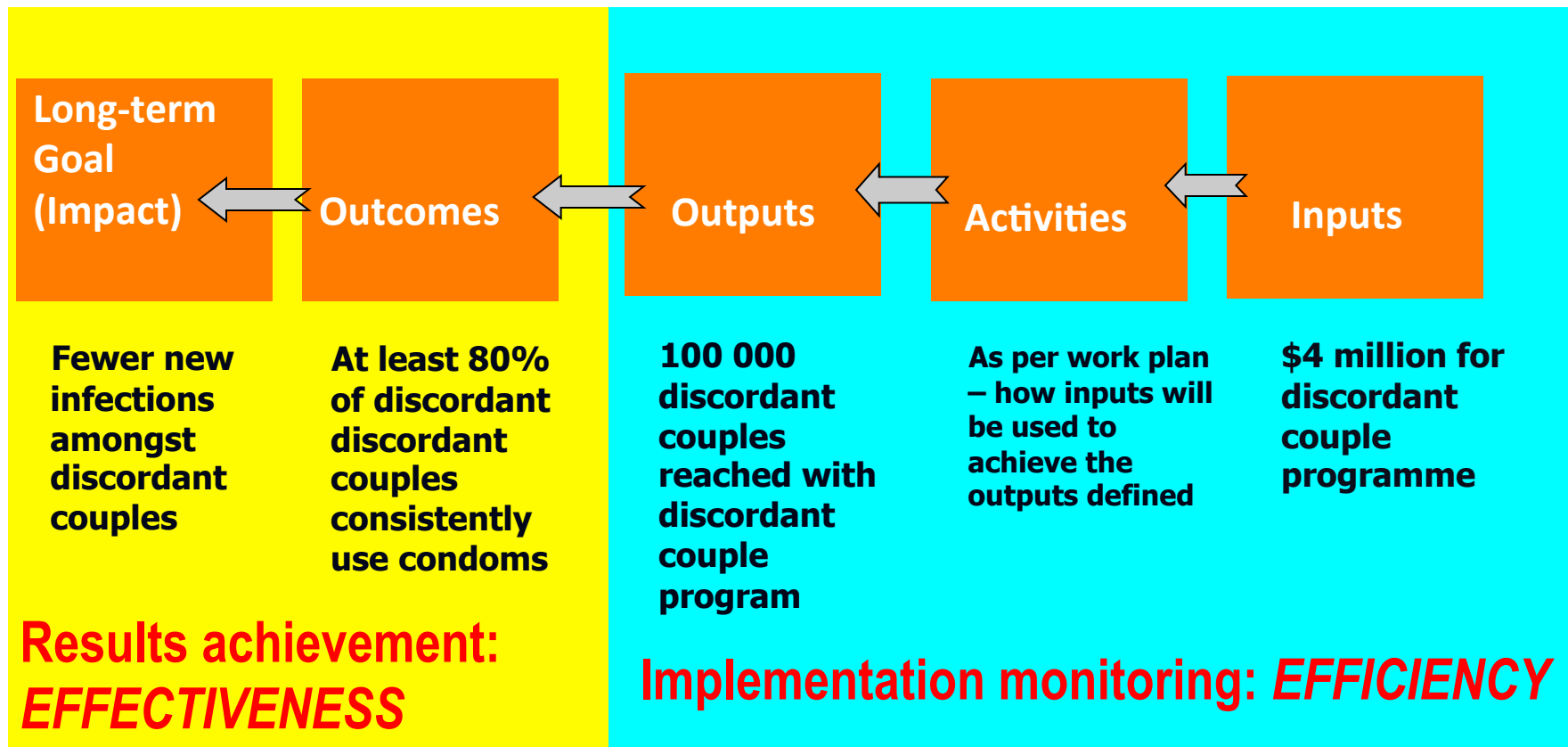


Monitoring and Evaluation Needed at all Levels





When to focus on which interventions



Results achievement: *EFFECTIVENESS*

Implementation monitoring: *EFFICIENCY*

What have we achieved
Outputs to Impacts
End of Strategic Plan periods

Have we been efficient in using resources?
Inputs to outputs
Midterm Reviews of HIV Strategic Plans