

Utilizing resources effectively for the first “90”

Strategic approaches to testing pregnant women for HIV
across high and very low prevalence settings

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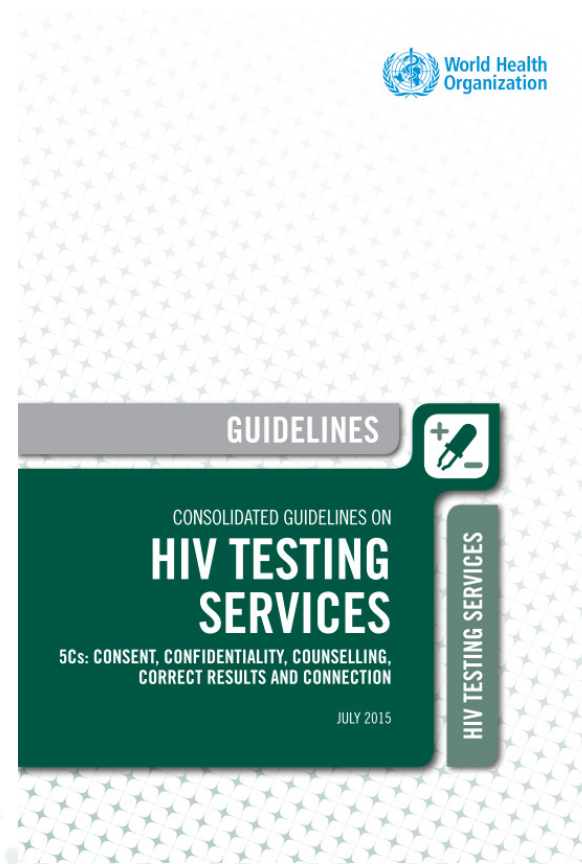
Background

- Declining resources for HIV response from donors
- Emphasis on prioritized/focused approach
- Key populations vs. general population
- Elimination of mother-to-child transmission of HIV
- WHO 2015 Consolidated Guidelines on HIV Testing Services – updated guidance for HIV testing policy for pregnant women

Strategic planning for HIV testing services

(WHO 2015 Consolidated guidelines on HIV testing services Chapter 6)

- Routinely offered HIV testing (universal approach)
- Focused HIV testing
 - Population
 - Geographical area
 - Health facility type
 - Health conditions



Strategic approaches to antenatal HIV testing

Question

- What are the health and cost outcomes of universal vs. focused HIV testing approach for pregnant women?

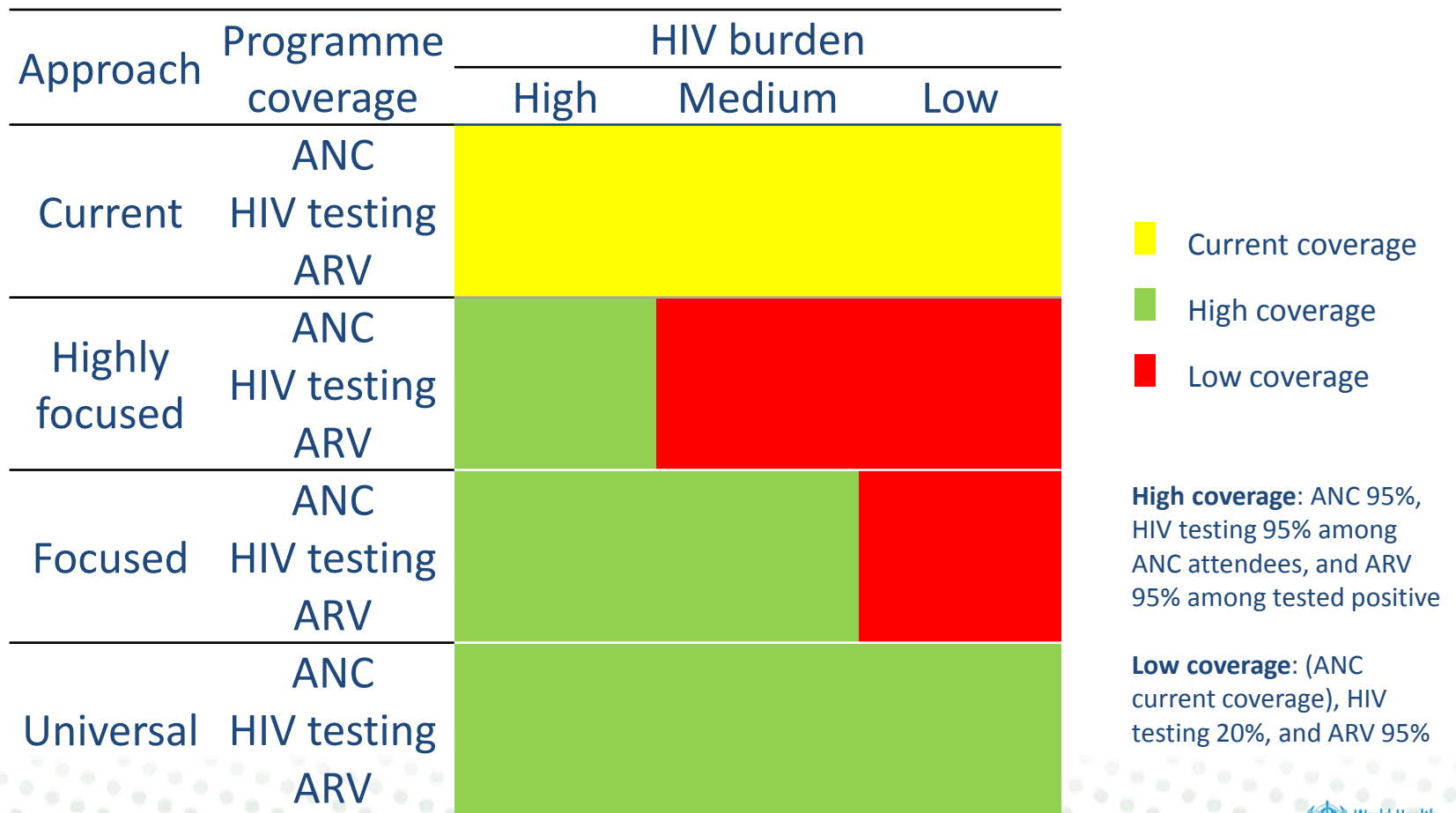
Cost-effectiveness analysis conducted to assess impact of different HIV testing strategies for PMTCT

Methods – country cases

- Four country-based cases with different HIV prevalence levels
 - High (17%) Namibia
 - Medium (7%) Kenya
 - Low (3%) Haiti
 - Very low (0.1%) Viet Nam
- Country divided into high, medium and low burden areas

Methods – scenarios examined

- Four HIV testing approaches



Methods - assumptions

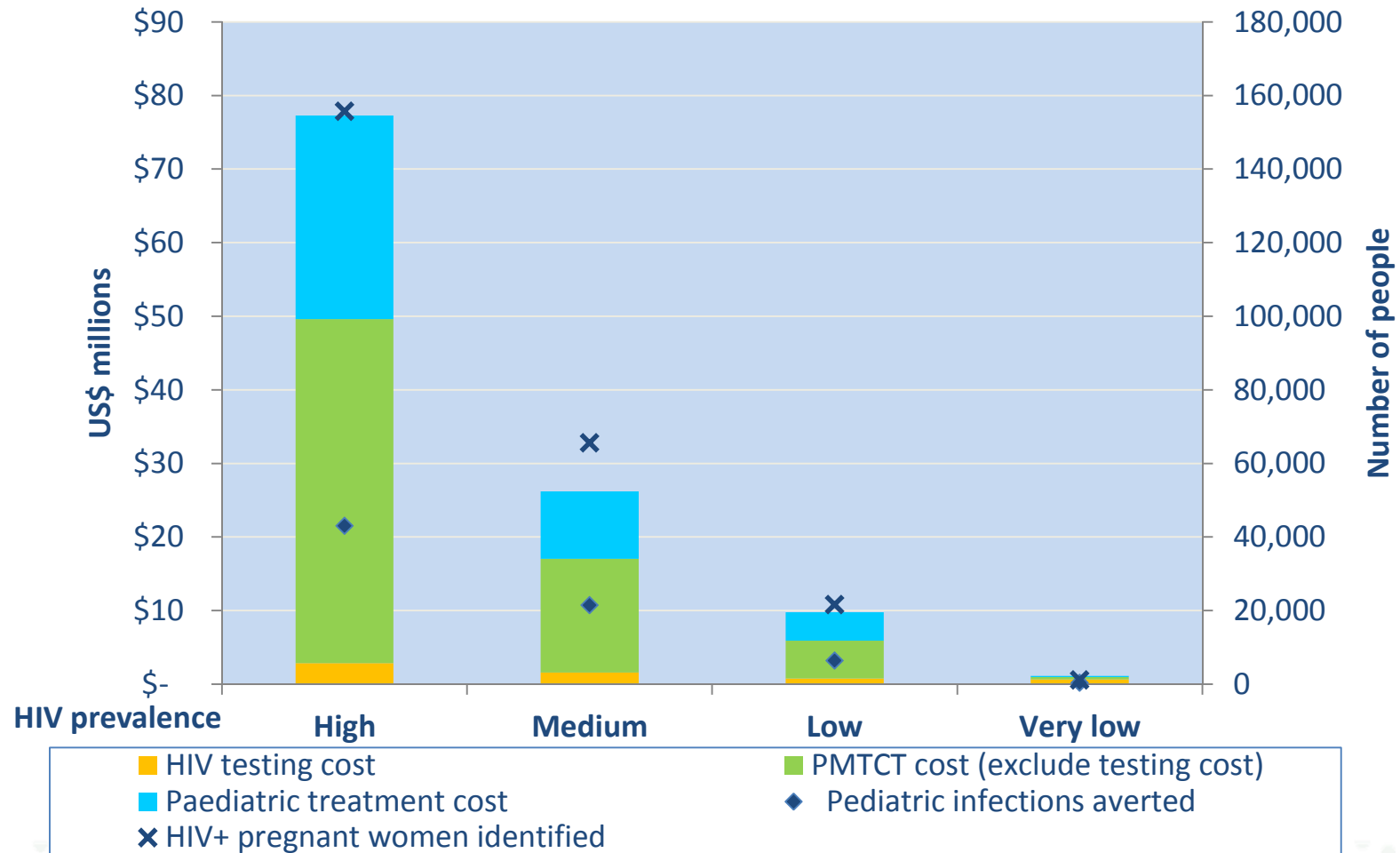
- Option B+ (lifelong ART for all HIV+ PW) with regimens recommended by WHO 2013 guidelines
- Breastfeeding
- Treatment for infected children – 20 years
- Unit costs
 - HIV tests, CD4, early infant diagnosis and viral load
(WHO Central Procurement Service, UNICEF, and the Supply Chain Management System)
 - ARV (GPRM Report 2013 and CHAI ARV Ceiling Price List 2014)
 - Health services (WHO CHOICE)

Methods - outcomes

- Health outcomes
 - HIV positive pregnant women identified
 - Paediatric HIV infections averted
 - Quality-adjusted life years (QALYs) gained
- Cost outcomes
 - Total cost of:
 - HIV testing for pregnant women
 - PMTCT services (including HIV test, ART, etc.)
 - Paediatric treatment
 - Incremental cost per infection averted / QALY gained (based on PMTCT cost)
 - Cost saved (based on both PMTCT and paediatric treatment costs)

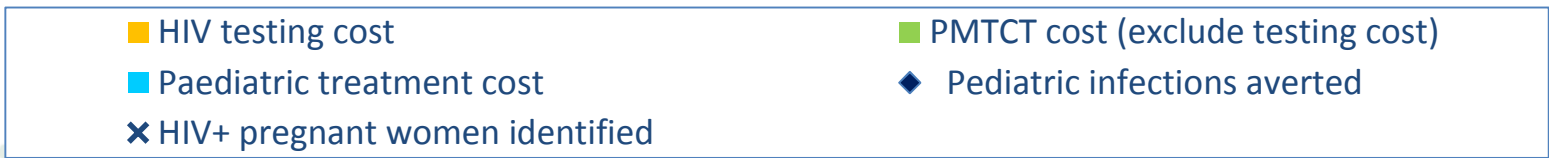
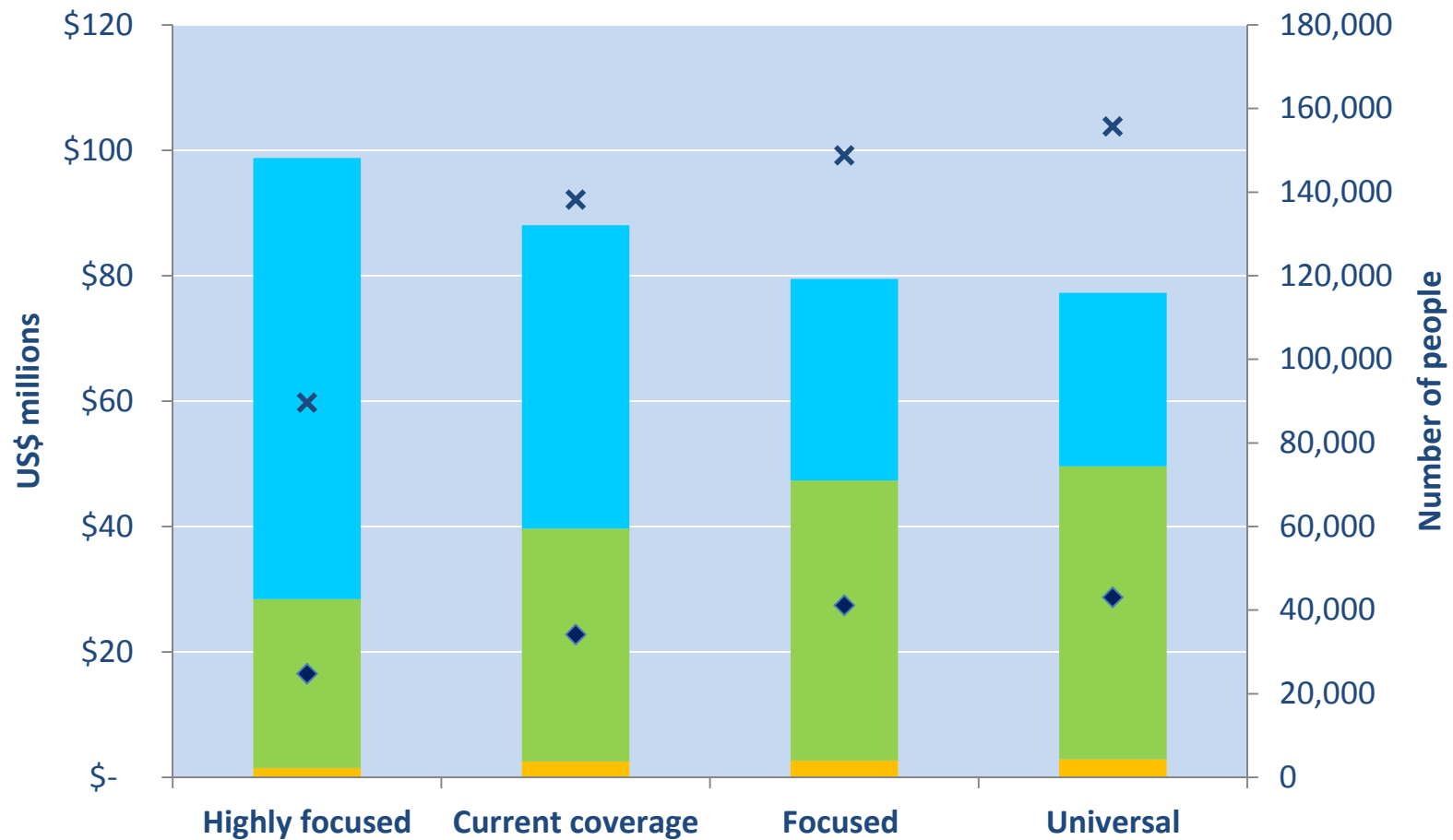
Results – Universal approach

(per 1 000 000 pregnant women)



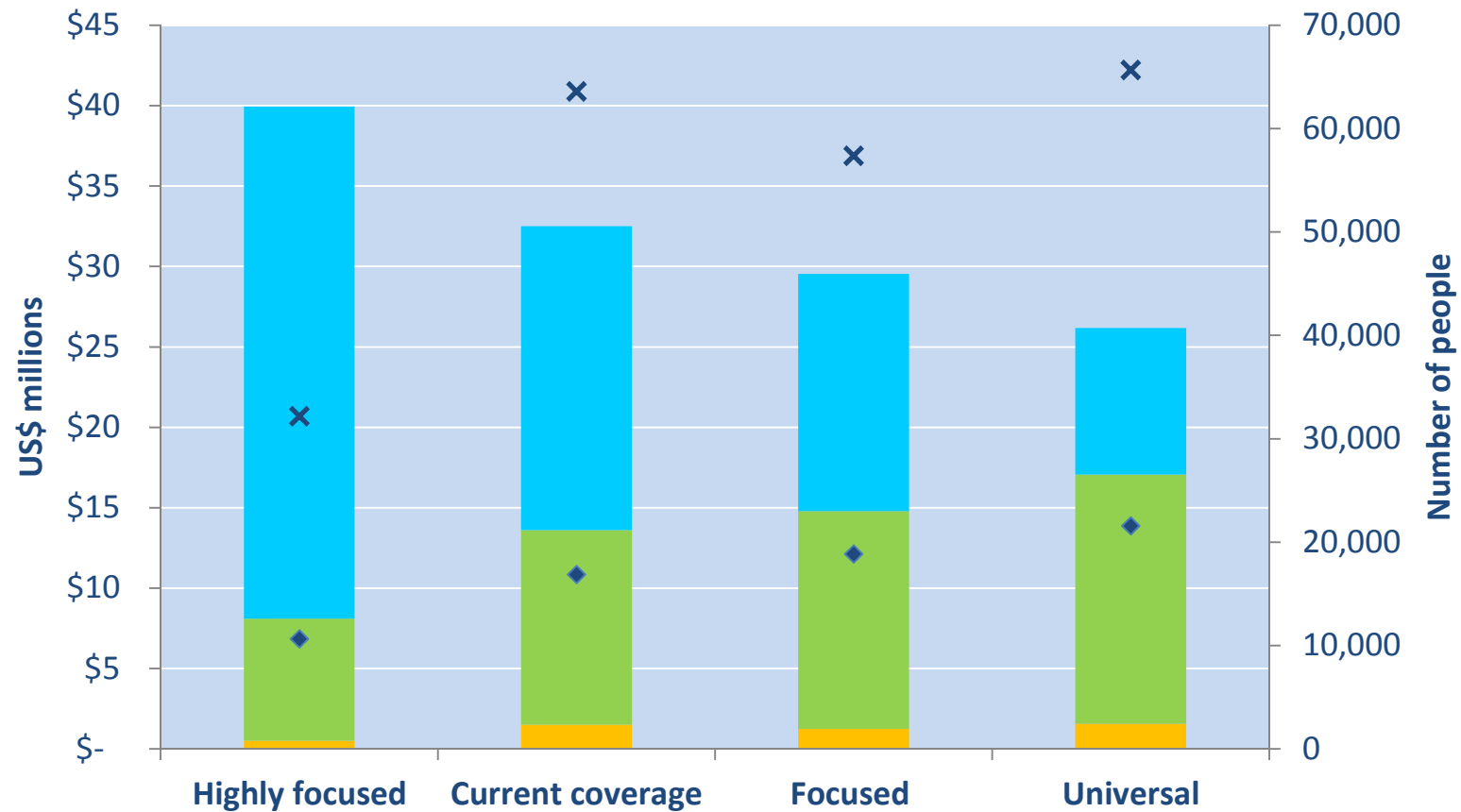
Results – high prevalence setting

(HIV prevalence 17%, per 1 000 000 pregnant women)



Results – medium prevalence setting

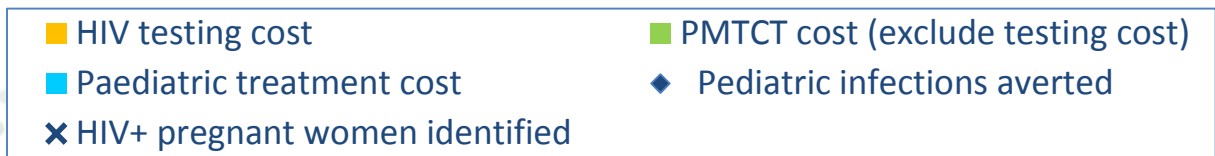
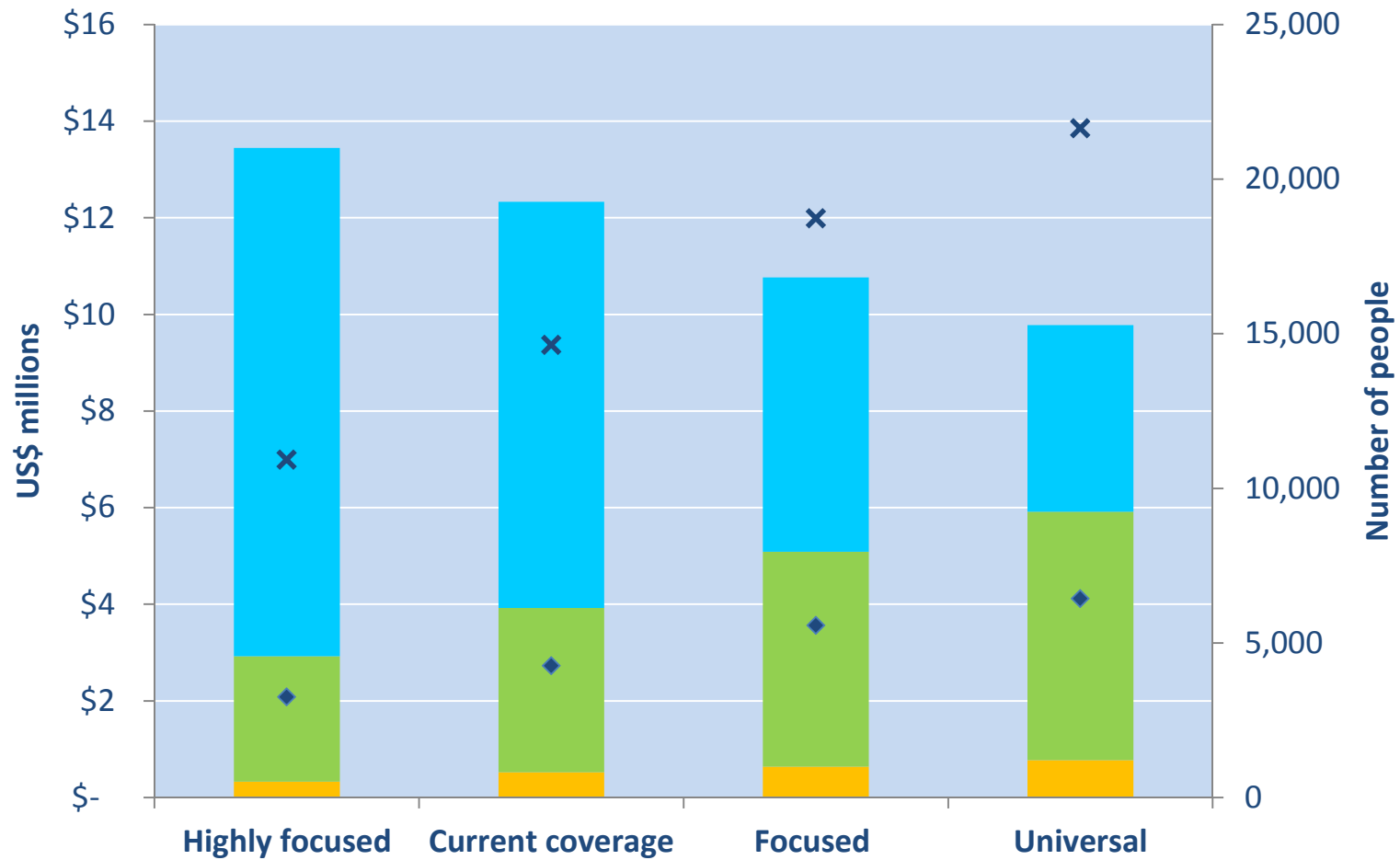
(HIV prevalence 7%, per 1 000 000 pregnant women)



- HIV testing cost
- PMTCT cost (exclude testing cost)
- Paediatric treatment cost
- ♦ Paediatric infections averted
- × HIV+ pregnant women identified

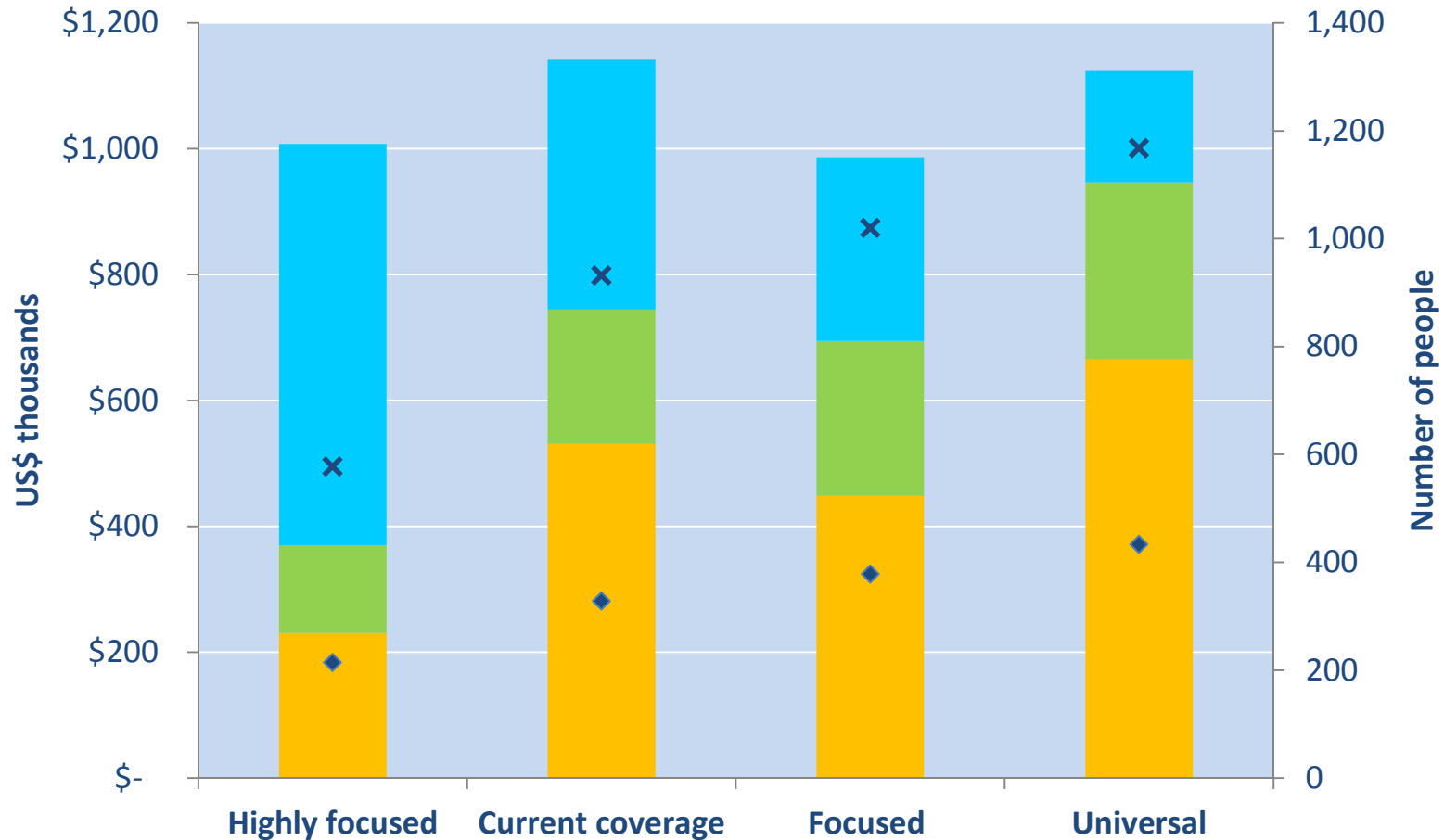
Results – low prevalence setting

(HIV prevalence 3%, per 1 000 000 pregnant women)



Results – very low prevalence setting

(HIV prevalence 0.1%, per 1 000 000 pregnant women)



- HIV testing cost
- PMTCT cost (exclude testing cost)
- Paediatric treatment cost
- ◆ Pediatric infections averted
- ✕ HIV+ pregnant women identified

Cost-effectiveness analysis

HIV prevalence	Approach	ICER based on PMTCT costs		Cost saved ^a (US\$ thousands)
		Incremental cost per infection averted (US\$)	incremental cost per QALY gained (US\$)	
High	Highly focused	(1146)	(57.3)	107,106
	Current	*	*	117,838
	Focused	1154	57.7	126,398
	Universal	1183	59.2	128,616
Medium	Highly focused	(761)	(38.1)	46,671
	Current	*	*	54,122
	Focused	814	40.7	57,087
	Universal	840	42.0	60,448
Low	Highly focused	(900)	(45.0)	14,310
	Current	*	*	15,420
	Focused	934	46.7	16,992
	Universal	953	47.7	17,976
Very low	Highly focused	(1728)	(86.4)	738
	Focused	1977	98.8	759
	Current	**	**	605
	Universal	4601	230.0	622

^a based on both PMTCT and future paediatric treatment cost * weakly dominated, ** dominated

Sensitivity analysis

- Parameters
 - HIV prevalence
 - Cost (HIV test kit, health services, and paediatric treatment)
- Universal approach remained cost-effective at HIV prevalence at 0.0005%
- Results remained unchanged with increased cost of HIV test kit, health services and treatment costs

Conclusions

- Universal approach is cost-effective even under the very low prevalence of $<0.001\%$
- HIV testing for pregnant women is cost saving
 - universal approach saves the most in high to low prevalence settings
- WHO 2015 recommendations on testing approach for pregnant women
 - generalized epidemic - universal
 - low and concentrated epidemic - universal/focused

Conclusions

- Comprehensive analysis and thorough consideration required for the selection of strategic approaches
 - cost-effectiveness and immediate and long-term outcomes
 - elimination of mother-to-child transmission of HIV
 - quality maternal, newborn and child health care
 - integrated screening for HIV, syphilis and hepatitis B
 - equity and rights to access services

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