Who, where, and how?
Developing scenarios for the rollout of oral PrEP in Kenya

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***OPTIONS refers to PrEP as the product category (inclusive of all formulations of ARV-based HIV prevention), and refers to specific products by formulation designation and/or name (e.g. oral PrEP/TDF-FTC, topical PrEP/dapivirine ring, injectable PrEP/cabotegravir, etc).*

BACKGROUND
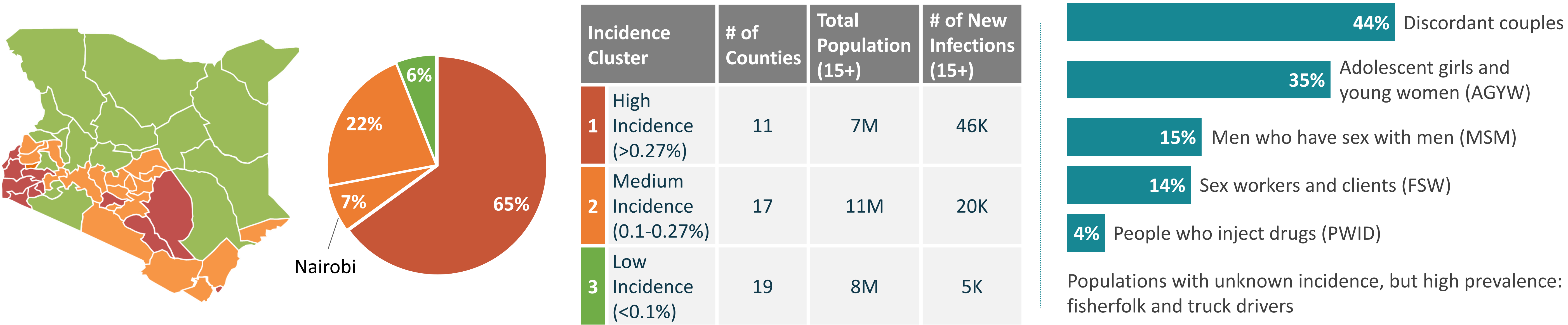
Planning for national oral PrEP rollout in Kenya

- In early 2017, Kenya was planning for the **introduction of oral PrEP**, the first in a new category of biomedical HIV prevention products

- As the government considered the introduction of oral PrEP, questions were raised about how to **phase rollout across districts and populations**

- While epidemiological and cost-effectiveness **modeling** traditionally guide decisions, these analyses often require significant time and resources and Kenya was seeking **new, rapid analytical methods** that could contribute to implementation planning in the absence of more robust methods

METHODS

Rapid analytical methods based on existing data

- We reviewed **district-level data and model estimates** on HIV incidence and population demographics to identify districts where oral PrEP rollout would likely achieve the most impact on the national HIV epidemic

- The **OPTIONS Consortium**, with work from FSG, a strategic consultancy, Avenir Health, a modeling analysis group, and LVCT Health, a Kenya-based HIV prevention NGO, worked with NASCOP in Kenya to develop these analyses
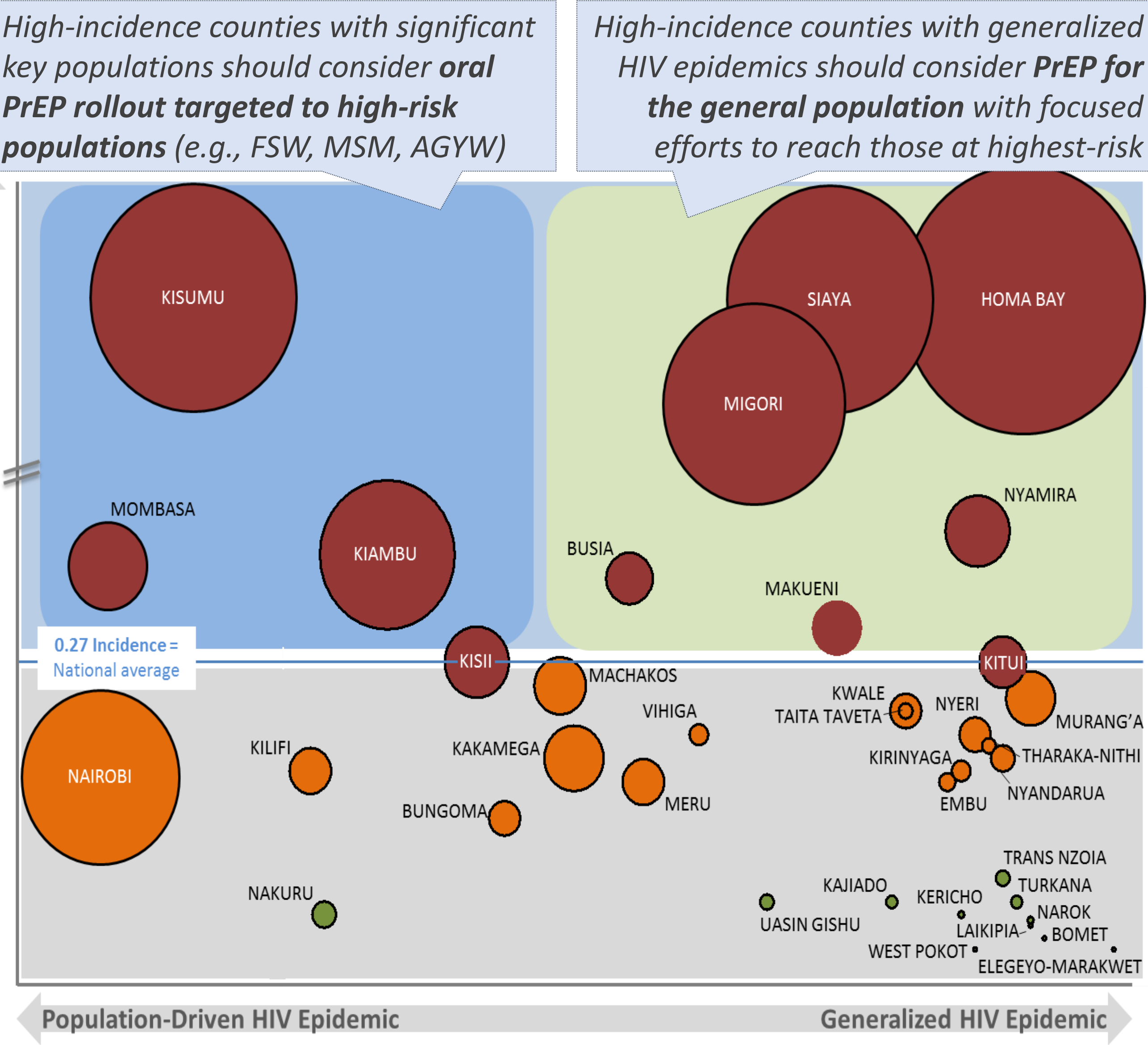
Proportion of National Adult 15+ New HIV Infections, 2015

Incidence Cluster		# of Counties	Total Population (15+)	# of New Infections (15+)
1	High Incidence (>0.27%)	11	7M	46K
2	Medium Incidence (0.1-0.27%)	17	11M	20K
3	Low Incidence (<0.1%)	19	8M	5K

- **44%** Discordant couples
- **35%** Adolescent girls and young women (AGYW)
- **15%** Men who have sex with men (MSM)
- **14%** Sex workers and clients (FSW)
- **4%** People who inject drugs (PWID)

Populations with unknown incidence, but high prevalence: fisherfolk and truck drivers

RESULTS

Counties mapped by incidence and presence of key populations, 2015
Circle size represents number of 2015 adult new infections

*High-incidence counties with significant key populations should consider **oral PrEP rollout targeted to high-risk populations** (e.g., FSW, MSM, AGYW)*

*High-incidence counties with generalized HIV epidemics should consider **PrEP for the general population** with focused efforts to reach those at highest-risk*

Five scenarios for oral PrEP rollout
Scenarios scored by impact and cost

Recommended scenarios

	Scenario		Estimates	Counties
County Rollout	1 Highest incidence cluster		Moderate impact	• 4 counties; covers ~45% adult new infections • General rollout in Homa Bay, Siaya, Migori; key population-focused rollout in Kisumu
			Lower total cost	
	2 High new infections		Moderate impact	• 7 counties; covers ~60% adult new infections • General rollout in Homa Bay, Siaya, Migori; key population and high-risk AGYW rollout in Kisumu, Kiambu, Mombasa, Nairobi
			Moderate total cost	
	3 High + med. new infections		Higher impact	• 19 counties; covers ~90% of adult new infections • General rollout in Homa Bay, Siaya, Migori, Muranga and Nyeri; key population and high-risk AGYW rollout in Kisumu, Nairobi, Kiambu, Mombasa, Kisii, and 9 other counties
			Higher total cost	
Population Rollout	4 Discordant couples		Lower impact	• 12 counties; covers ~30% of adult new infections • Discordant couple rollout via CCCs in Nairobi, Homa Bay, Siaya, Kisumu, Migori, Kiambu, Mombasa, and 5 other counties
			Lower total cost	
	5 High + med. key pops.		Lower impact	• 16 counties; covers ~20% of adult new infections • Key population rollout in Busia, Migori, Kisumu, Kiambu, Kisii, Siaya, Mombasa, Nairobi, Kilifi, Nakuru, and 6 other counties
			Moderate total cost	

- Based on district-level incidence and population data, **five scenarios** for oral PrEP rollout were created
- There were **two types of scenarios**: three scenarios based on district-level HIV incidence data and two scenarios based on populations that span districts
- **Scenarios differ** by the number of districts and people they would cover as well as the number of new infections that originate in those districts or populations
- Based on the **number of new recent infections** originating in the districts in each scenario, a relative impact estimate for oral PrEP rollout was determined (high / medium / low impact)
- Based on the **number of districts and population size** in each scenario, a relative cost of oral PrEP rollout was determined (high / medium / low total cost)
- Based on this analysis, the following **recommendations** were made:
  - Population-specific rollouts (e.g., oral PrEP solely for key populations) will not reach a significant number of HIV infections
  - District-level rollouts do reach significant numbers of new HIV infections – in particular, Scenarios #1 and #2 provide the best balance of impact and cost

CONCLUSIONS

A rapid, low-cost approach to developing cost and impact comparisons effectively informed Kenya's national implementation planning

- The rollout scenarios were used in Kenya's national implementation planning for oral PrEP rollout by the national technical working group and NASCOP

- While the need for further cost-effectiveness and impact modeling was recognized, this interim analysis was helpful in articulating the general parameters and trade-offs of different scenarios for phased rollout of oral PrEP and helped inform decisions based on differing levels of resource availability

- The scenarios were developed with minimal effort and resource requirement, and this type of analysis can be an effective complement to more resource-intensive modeling analyses, especially when those analyses require additional resources and time to complete

- These scenarios informed Kenya's National Strategic Framework for oral PrEP; this approach will be used to support planning for oral PrEP rollout in other countries in 2017 and 2018

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