

# Availability, price and promotions for cigarettes and non-cigarette tobacco products: an observational comparison of US Air Force bases with nearby tobacco retailers, 2016

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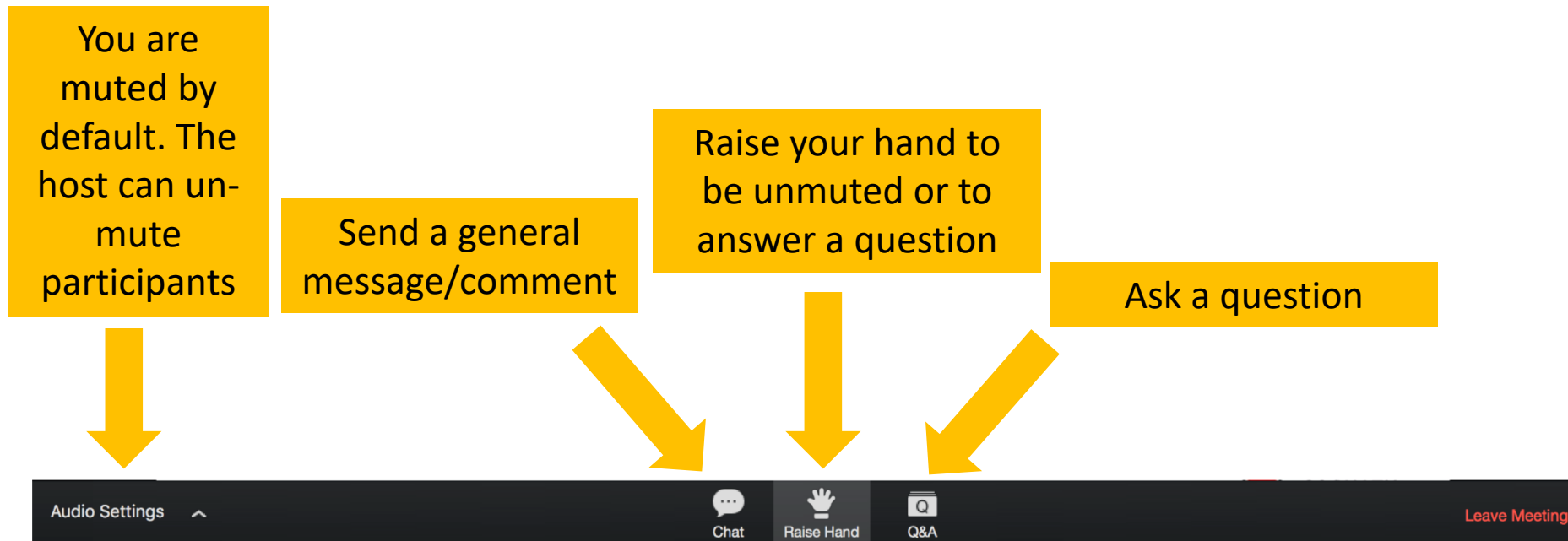
AMANDA Y. KONG, MPH

JUNE 14, 2018

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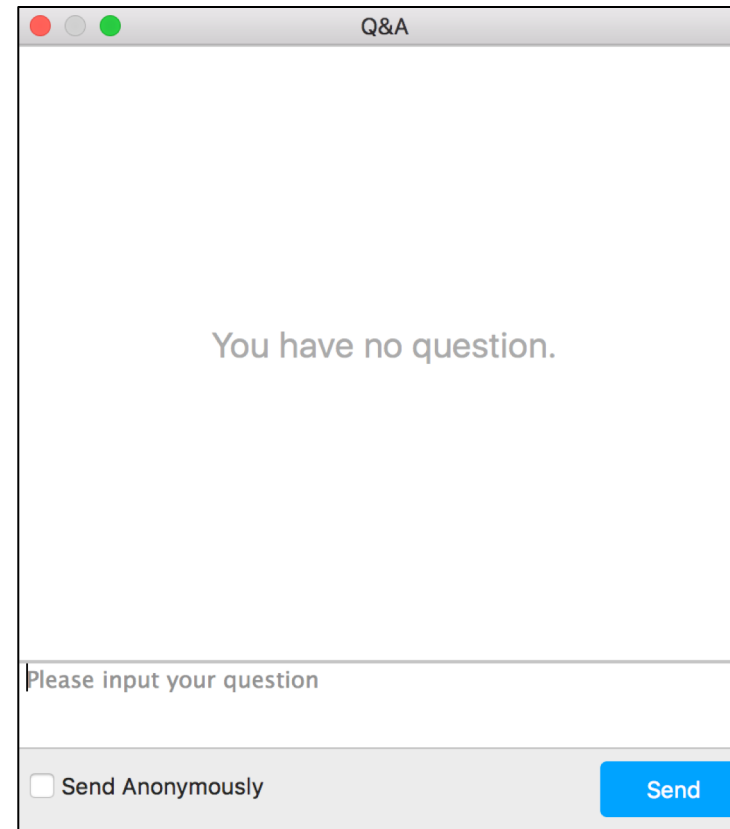
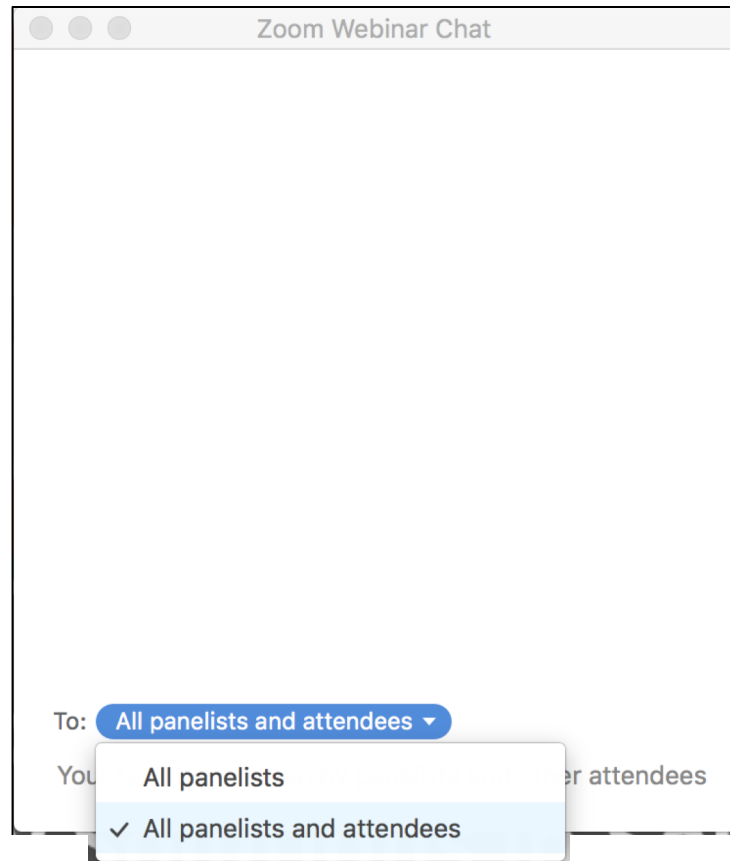
# Webinar Housekeeping: Zoom Webinar Orientation

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# Disclosures

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**Funding** for this study was provided by a grant from the National Institute on Drug Abuse (R01 DA037273), and Lineberger Comprehensive Cancer Center provided internal funds to KMR to support data collection. The funders had no involvement in the study design, collection, analysis, writing or interpretation.

**Disclaimer:** The views expressed are those of the authors and do not reflect the official views or policy of Department of Defense or its components.



# Today's Agenda

1. Background and past studies
2. Current study aims
3. Methods & measures
4. Results
5. Discussion/Implications
6. Questions about study

# Availability, price and promotions for cigarettes and non-cigarette tobacco products: an observational comparison of US Air Force bases with nearby tobacco retailers, 2016

Amanda Y Kong,<sup>1</sup> Shelley D Golden,<sup>1</sup> Allison E Myers,<sup>1,2</sup> Melissa A Little,<sup>3,4</sup> Robert Klesges,<sup>3</sup> Wayne Talcott,<sup>3,4</sup> Sara M Vandegrift,<sup>1,5</sup> Daniel G Cassidy,<sup>4</sup> Kurt M Ribisl<sup>1,5</sup>

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## ABSTRACT

**Introduction** Active duty military personnel have higher cigarette and smokeless tobacco use rates than civilian populations. Although US Airmen (called Airmen regardless of gender or rank) are required to be tobacco-free during initial training, many resume use once this period ends, perhaps as a result of easy access to cheap tobacco products.

**Methods** Between July and September 2016, we collected tobacco product, price and promotion information by visiting on-base (n=28) and off-base (n=80) tobacco retailers near the eight technical training bases where approximately 99% of Airmen attend training. We conducted mixed linear effects models to examine on-base versus off-base differences.

**Results** Cigarette packs were 11%–12% cheaper at on-base retailers compared with off-base retailers. Newport Menthol and Marlboro Red cigarette packs

with civilian populations (18%), a disparity which is also evident in smokeless tobacco use (12.8% military vs 2.3% civilian).<sup>5</sup> The US military is vast reaching with personnel stationed worldwide. Military personnel who use tobacco have worse physical and mental health and are at greater risk of early discharge compared with their non-smoking colleagues.<sup>6,7</sup> Furthermore, the DoD spends more than \$1.6 billion each year on health costs and lost productivity due to tobacco-related health issues.<sup>8</sup>

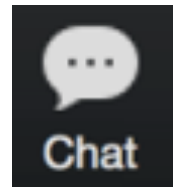
Within the Air Force specifically, more than a quarter of Airmen (called Airmen regardless of gender or rank) report regular tobacco use prior to military service, and about 15% report initiating tobacco use after enlistment.<sup>9</sup> This is despite a requirement that all Airmen remain tobacco-free during 8½ weeks of basic military training and the first 4 weeks of technical training, and is at odds

# Warm up

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- What do you already know about the military population and smoking?
- What are some things that come to mind when you think about the tobacco point-of-sale environment and the military?

**Enter answers in the chat box!**



# Background

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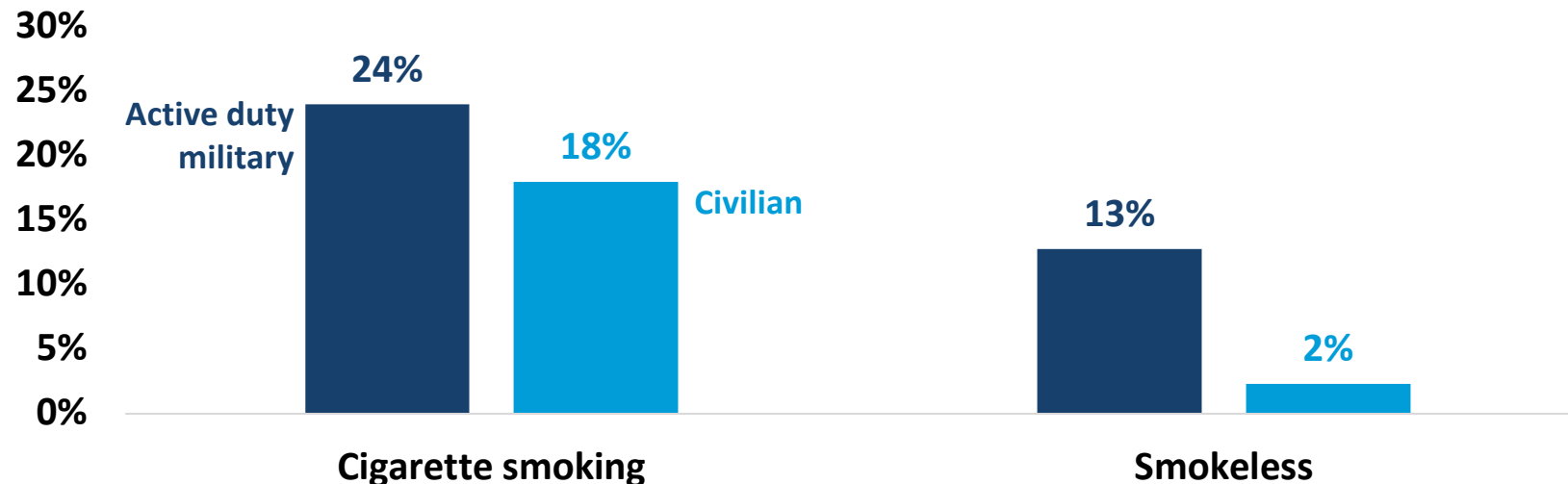
- DoD spends more than **\$1.6 billion each** year on health costs and lost productivity due to tobacco-related health issues.
- Military personnel who use tobacco have worse physical and mental health and are at greater risk of **early discharge** compared with their non-smoking colleagues.



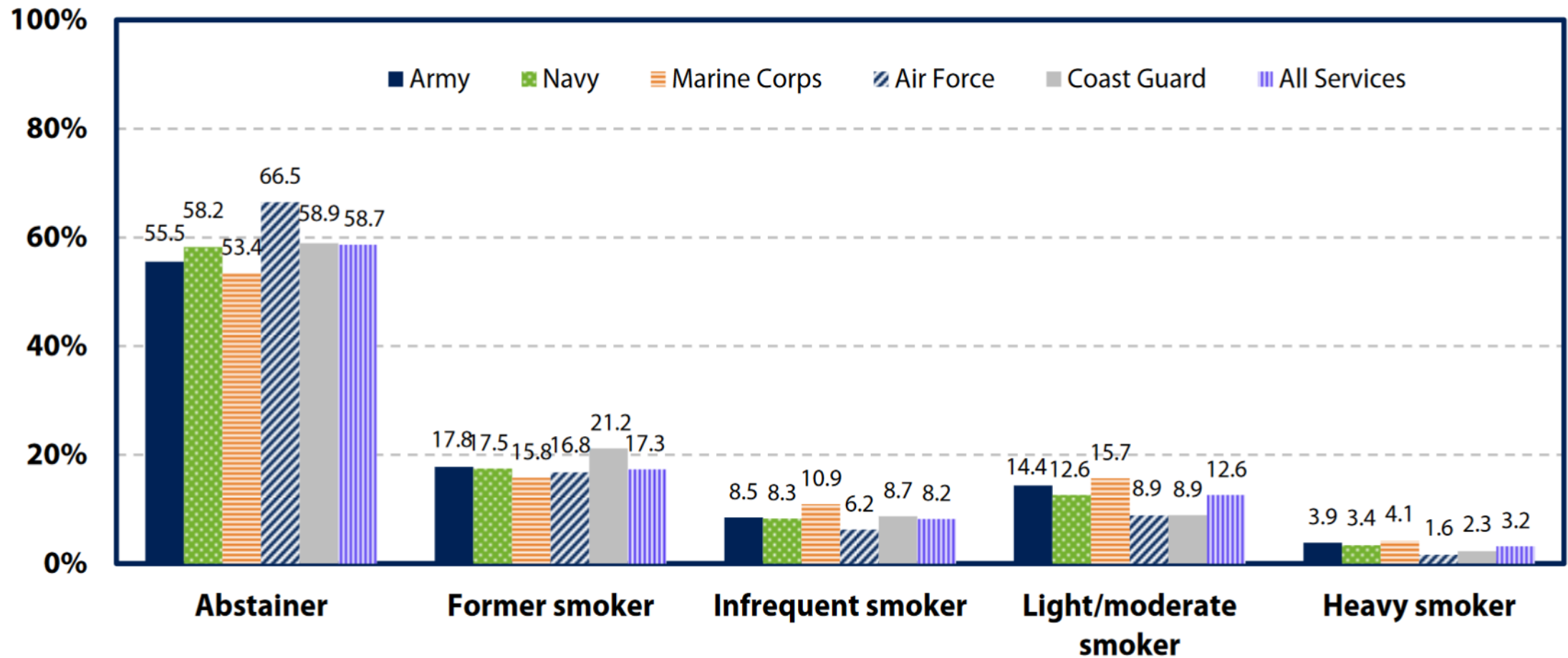
# Background

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- DoD spends more than **\$1.6 billion each** year on health costs and lost productivity due to tobacco-related health issues.
- Military personnel who use tobacco have worse physical and mental health and are at greater risk of **early discharge** compared with their non-smoking colleagues.
- **30-day prevalence of tobacco use:**



**Figure 4.3.A: Levels of Cigarette Smoking, by Service**



Note: Graph presents weighted data.

Graphic from: United States Department of Defense. 2011 department of defense health related behaviors survey of active duty military personnel, 2013. Washington, DC.

# Tobacco use risk factors

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- Demographics (eg, young, predominantly male, non-Hispanic White)
- High school education or less
- Psychosocial (eg, risk-taking behaviors, high prevalence of alcohol abuse)
- Stress of military deployment



# Background

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- Environmental risk factor: **low prices** are associated with increased tobacco consumption and relapse
- Department of Defense (DoD) Instruction 1330.9:

4.10.3. Pricing of Tobacco Products. Prices of tobacco products sold in military resale outlets in the United States, its territories and possessions, shall be no higher than the most competitive commercial price in the local community and **no lower than 5 percent below the most competitive commercial price in the local community**. Tobacco shall not be priced below the cost to the exchange. Prices of tobacco products sold in overseas military retail outlets shall be within the range of prices established for military retail system stores located in the United States.

# Background

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**Taxes?**

# Past pricing studies

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- National studies of all military service branches
- Phone-based data collection
- Premium and discount cigarette brands
- Differences in prices on military bases relative to nearby off-base community stores (typically defined as mass merchandisers, such as Walmart).



# Past pricing studies

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- 2011-2013: Marlboro Red prices were **significantly cheaper** on military bases than in the community
- 2011: Newport Menthol cigarettes cost an **average of 23% less** on a military base than in local community Walmarts
- 2013-early 2014: **18.2%** of military retailers were selling Marlboro Red at **prices below 5%** of the lowest competitive local price
- 2013-early 2014: Military retailer cigarette prices vs. *internal* community prices
  - Price of Marlboro Red cigarettes at military retailers was **6.2% lower than the average community price.**

# Past pricing studies

**Table 1** Military retail and community comparison per-pack prices for Marlboro Red cigarettes

	Service branch				
	USAF (n=38)*	USA (n=29)	USN (n=34)	USMC (n=13)	Joint base (n=5)
Per cent savings on cigarettes from military exchanges					
Mean (SD)	7.6 (5.4)	7.4 (7.0)	4.5 (5.7)	3.0 (6.9)	7.7 (3.6)
High	15.5	16.2	9.7	13.7	14.1
Low	-2.4	-1.5	-1.1	-6.0	1.1
Per cent of exchanges not compliant with DoD policy <sup>5</sup> using lowest community price (%)	13.5	18.5	14.7	7.7	0.0

\*Number of stores providing pricing for Marlboro packs.

†All prices in 2013 US dollars.

DoD, Department of Defense; USA, US Army; USAF, US Air Force; USMC, US Marine Corps; USN, US Navy.



## Current Study Aims

# Air Force (Airmen)

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- >1/4 of Airmen report regular tobacco use prior to military service
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→ requirement that all Airmen remain tobacco-free

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  - **63%** of Airmen state complete confidence in **remaining tobacco-free** for 1 year following this period of forced abstinence (Little et al., 2016)
  - However, 15% still report **initiating** tobacco use *after* enlistment

Little MA, Derefinko KJ, Bursac Z, et al. Prevalence and correlates of tobacco and nicotine containing product use in a sample of united states air force trainees. Nicotine Tob Res 2016;18:416–23.

# Air Force (Airmen)



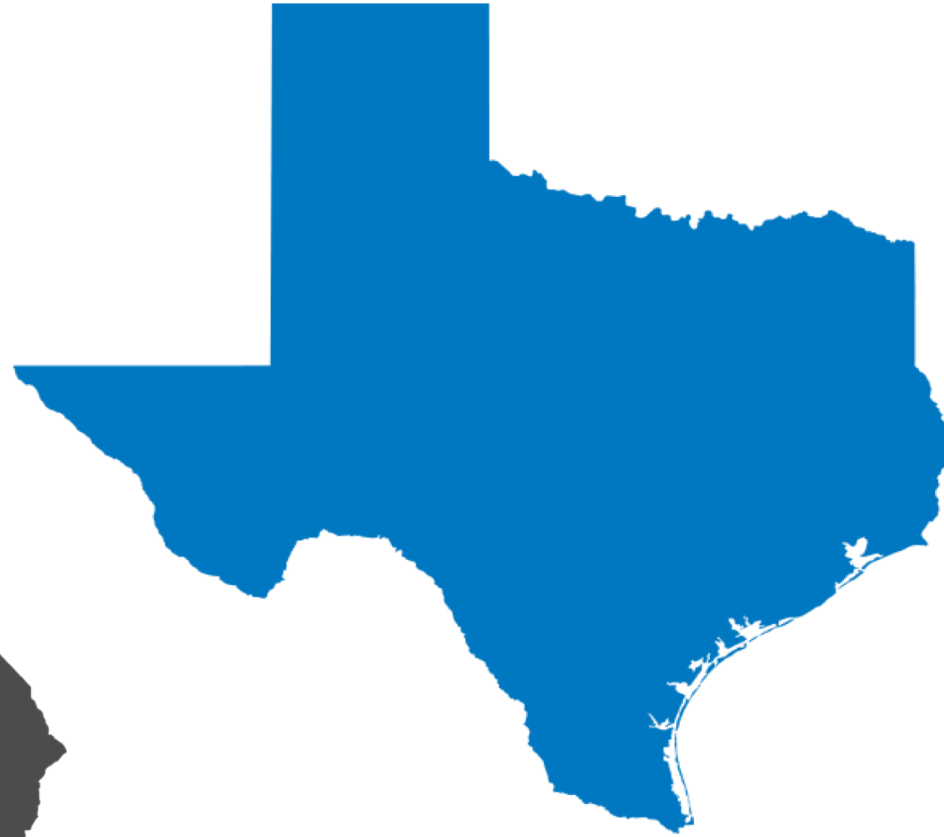
- >1/4 of Airmen report regular tobacco use prior to military service
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The current study is the first to assess disparities in the pricing, availability and marketing of multiple tobacco products on-base and off-base through **in-person** tobacco retailer assessments at multiple tobacco retailer store types.

## Methods & Measures



Presidio of Monterey,  
Vandenberg AFB



Camp Bullis, Fort Sam Houston,  
Goodfellow AFB, Lackland AFB,  
Sheppard AFB



Keelser AFB

All Air Force Bases (AFB) & installations = where 99% of Airmen conduct technical training

# Retailer lists

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- Base maps and Air Force-based civilian staff were used to identify **every on-base tobacco retail outlet**
- **State business and tobacco retailer licensing websites** were used to identify a list of probable nearby off-base community tobacco retailers.
- The retailers included in the study were then identified/confirmed using **ground truthing**. Data collector **identified the 10 closest off-base community retailers** nearest each of the base gates.
- For each store, the data collector **confirmed the sales of tobacco**.

# Store audits

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- **Completed store audits:**
  - 80 off-base retailers
  - 26 of the 28 on-base retailers (92.9%)
  - Total sample = 108 tobacco retailers





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- Modified version of Standardized Tobacco Assessment for Retail Settings (**STARS**)

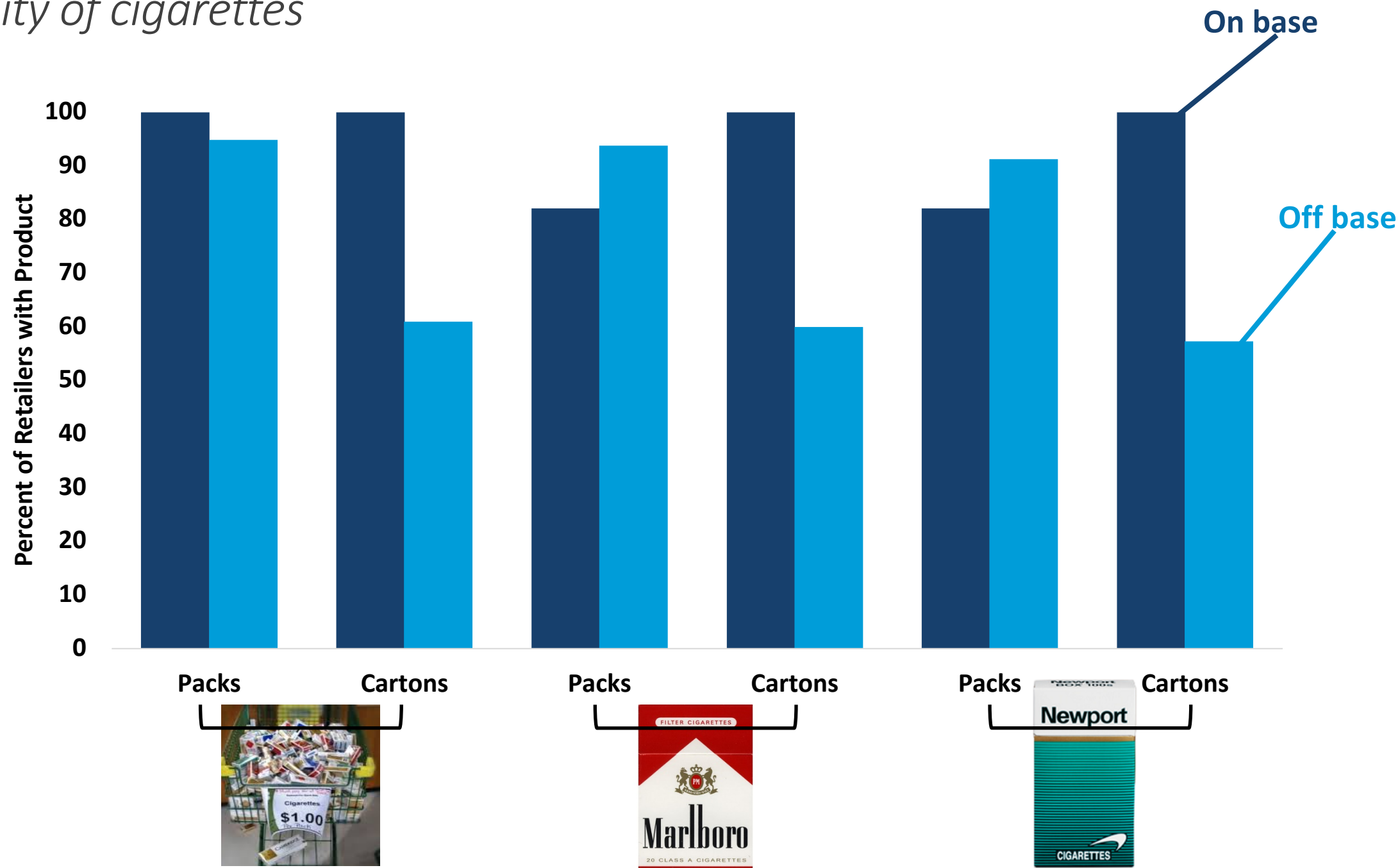
- **Availability of:**

- Cigarette packs and cartons
- Cigarillos, cigars, smokeless, electronic cigarettes
- Price promotions

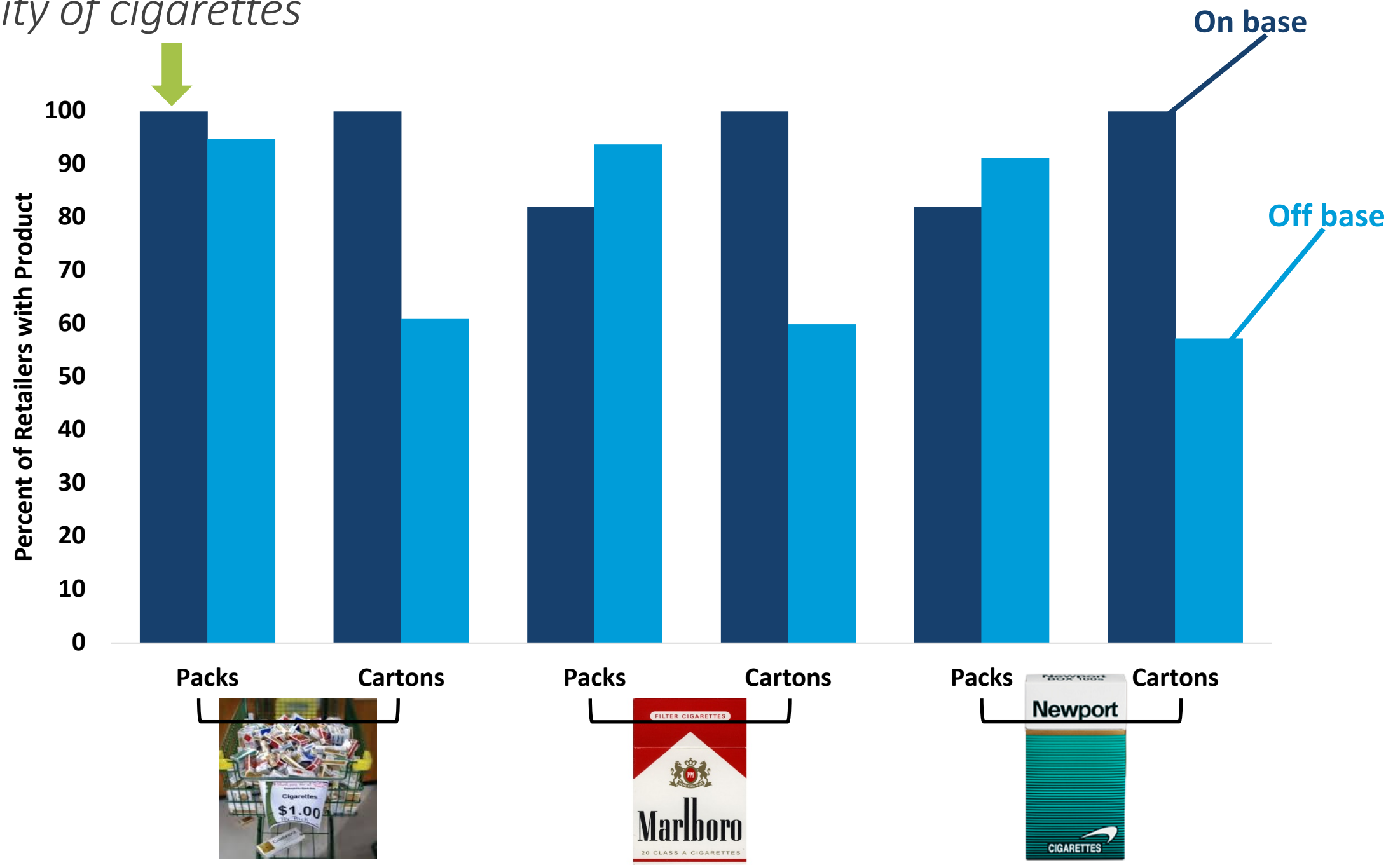
- **Price:** cigarettes, Copenhagen smokeless, Vuse disposable e-cigarette

Results

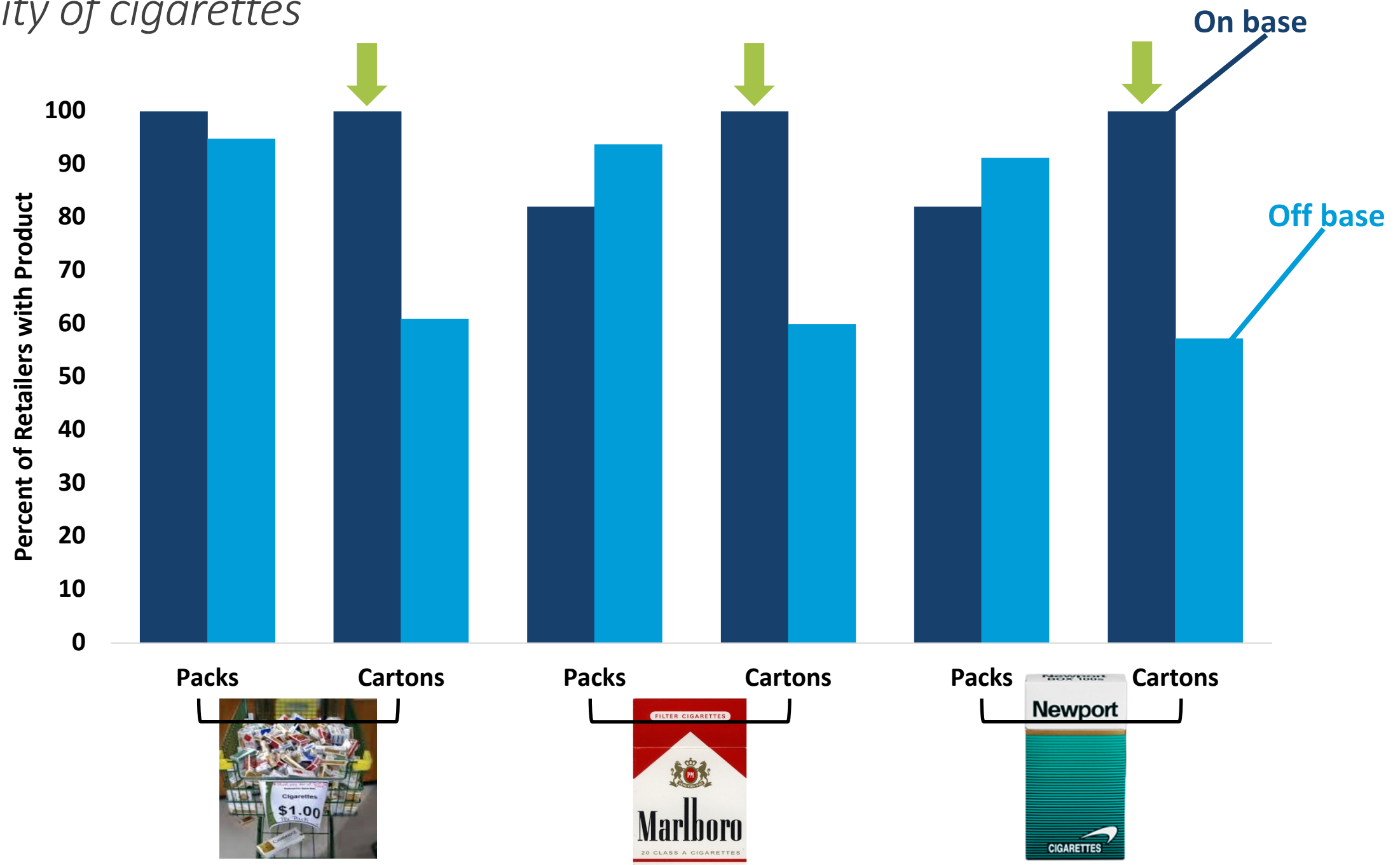
# Availability of cigarettes



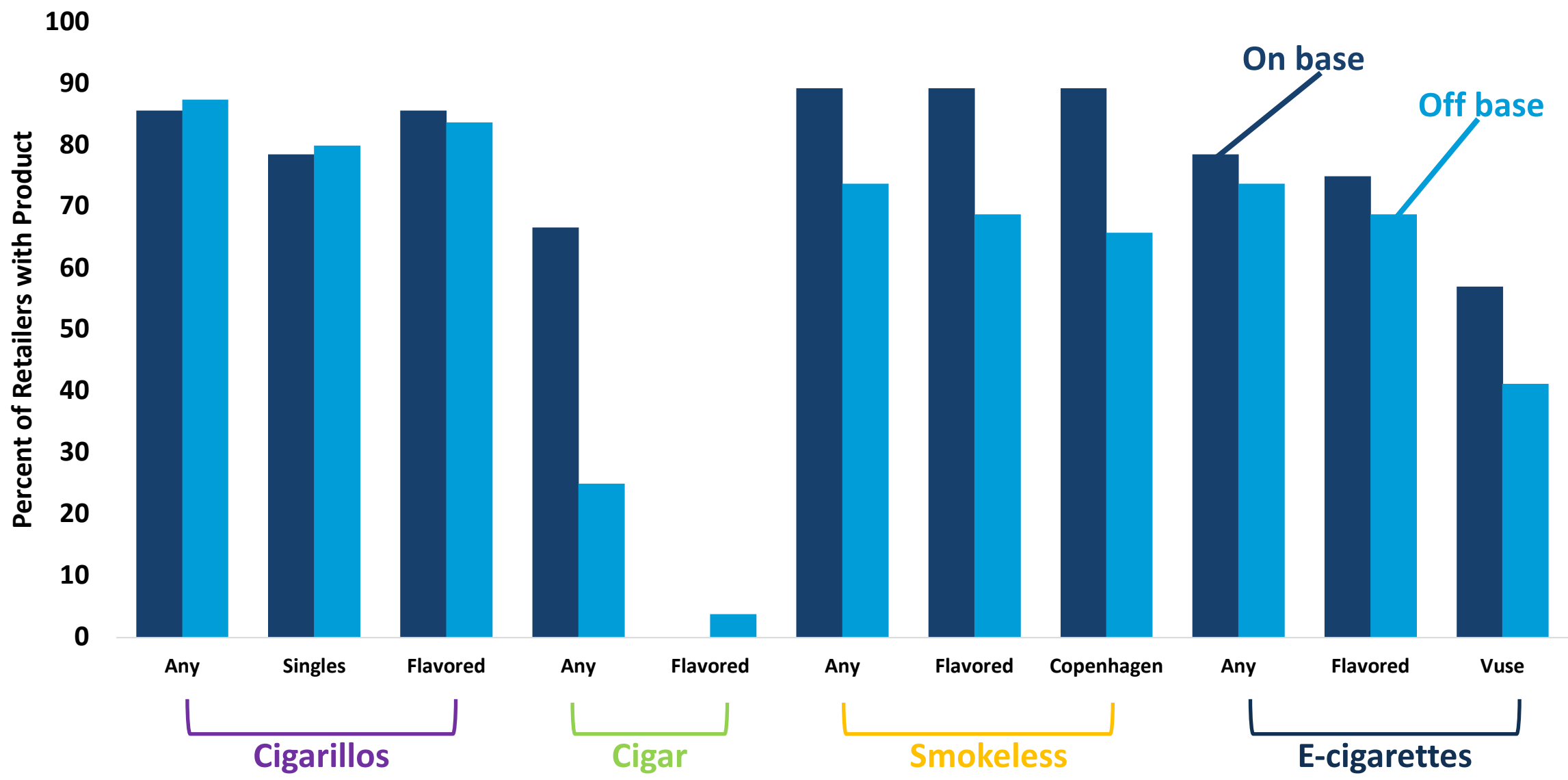
Availability of cigarettes



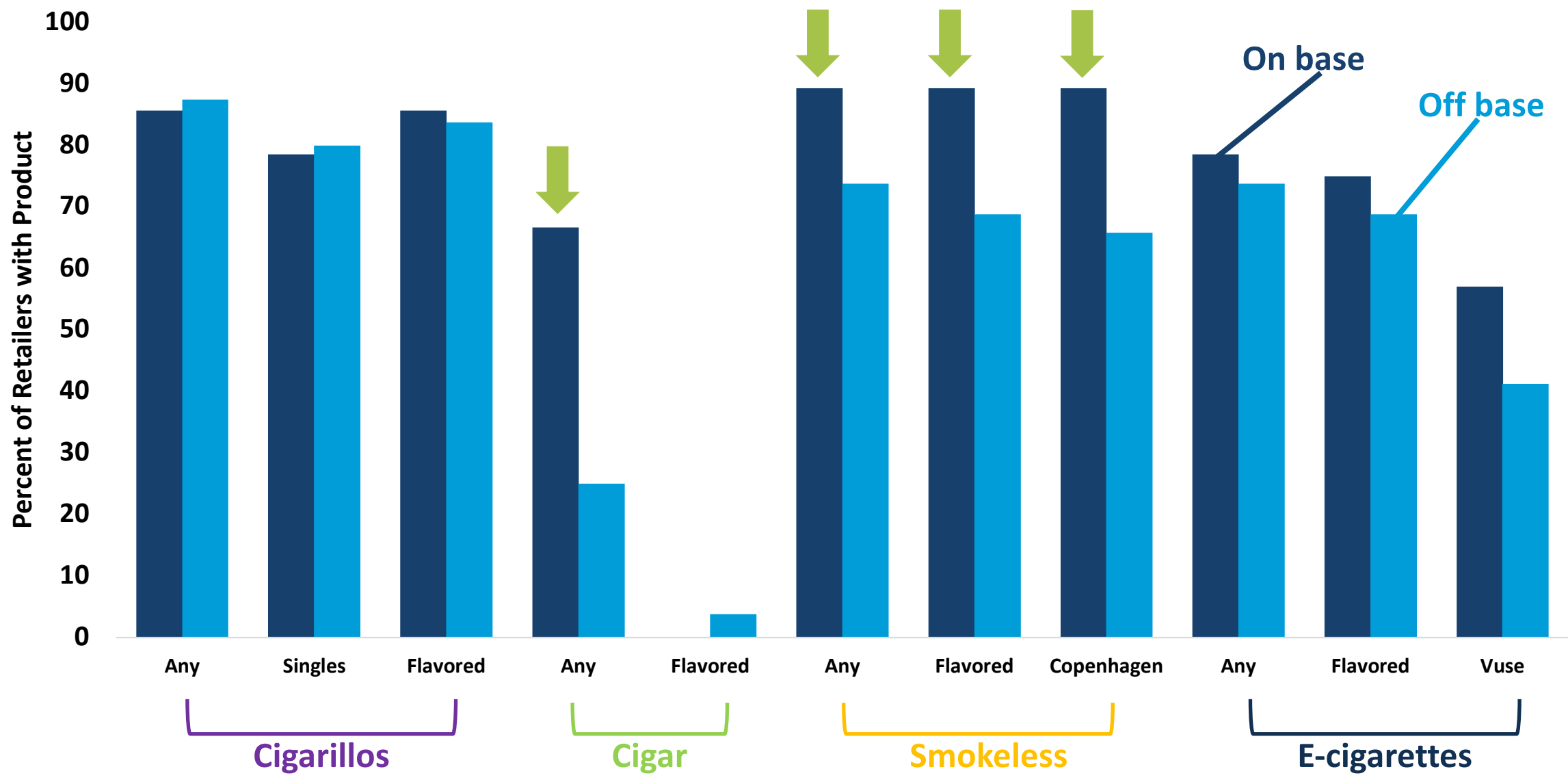
# Availability of cigarettes



# Availability of other tobacco products



# Availability of other tobacco products



# Interior price promotions

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- Interior price promotions (any type) were **more common in on-base retailers for cigarettes (85.7%) and smokeless tobacco (64.3%)** compared with off-base stores (75.0% and 46.3%, respectively)
- Promotions for **cigarillos were much less common on-base (25.0%)** compared with off-base (40.0%)
- For all stores, most tobacco products were promoted through **special prices** on one or more products
- Consistent with DoD instruction 1130.1725, **no on-base retailers had any exterior tobacco marketing** while all off-base retailers had exterior tobacco marketing for at least one type of tobacco product.



*Average prices (unadjusted)*

	Unadjusted average price paid, US\$			
	On-base price (SD)	n	Off-base price (SD)	n
Cheapest cigarettes				
Packs	4.40 (0.3)	23	4.93 (0.7)	75
Cartons	45.46 (2.5)	28	47.82 (6.2)	47

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Cheapest cigarettes				
Packs	4.40 (0.3)	23	4.93 (0.7)	75
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Marlboro Red				
Packs	5.72 (0.3)	23	6.49 (0.6)	75
Cartons	55.34 (2.1)	28	62.22 (4.9)	45
Newport Menthol				
Packs	5.90 (0.4)	23	6.72 (0.8)	73
Cartons	58.60 (2.8)	28	65.18 (6.2)	43

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Newport Menthol				
Packs	5.90 (0.4)	23	6.72 (0.8)	73
Cartons	58.60 (2.8)	28	65.18 (6.2)	43
Copenhagen	3.89 (0.7)	25	4.42 (1.1)	52
Vuse	11.00 (0.0)	16	11.47 (1.4)	33

*Average price differences (adjusted)*

	On-base (vs off-base) B	SE
Cheapest cigarettes		
Packs	−0.54**	0.1
Cartons	−2.60	1.2

*Average price differences (adjusted)*

	On-base (vs off-base) B	SE
Cheapest cigarettes		
Packs	−0.54**	0.1
Cartons	−2.60	1.2
Marlboro Red		
Packs	−0.80***	0.1
Cartons	−6.89***	0.8
Newport Menthol		
Packs	−0.87***	0.2
Cartons	−6.58***	1.1
Copenhagen	−0.65**	0.2
Vuse	−0.49	0.4

Discussion/Implications

# Key findings

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- Price of packs of cigarettes was about **11%–12% cheaper** at on-base retailers compared with off-base retailers.
- On-base savings for Marlboro Red and Newport Menthol packs were between \$0.80–0.87, or about **\$292–318 annually** for a pack a day smoker.
- Cheapest packs sold in military instalments were **more than \$0.50 cheaper** than those sold off-base, amounting to an annual savings of \$183 for a pack a day smoker.
- Copenhagen smokeless tobacco was **\$0.65 cheaper** in on-base retailers compared with nearby off-base community stores.
- Cigarette cartons were also available for purchase in **all on-base stores**, compared with only 61% of off-base community retailers.
- Interior price promotions were particularly prevalent for **cigarettes and smokeless tobacco**, the products for which on-base versus off-base availability and price differentials were highest

# Policy Implications

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- March 2017 (post-study): new DoD Policy Memorandum went into effect:
  - The lowest local competitive price to which on-base prices are compared must **include all taxes** that would be applicable off-base.
    - Definition of 'local'?
    - Local price comparison sources?



# Policy Implications

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- March 2017 (post-study): new DoD Policy Memorandum went into effect:
  - The lowest local competitive price to which on-base prices are compared must **include all taxes** that would be applicable off-base.
    - Definition of 'local'?
    - Local price comparison sources?
- Minimum floor price
- Restrict and ban coupons and price promotions
- Need **continued monitoring** of pricing and availability of multiple tobacco product types and advertising across all military branches

# Questions about study?

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## What this paper adds

- ▶ This study is the first to assess disparities in both the pricing and availability of multiple tobacco products on-base and off-base.
- ▶ We also demonstrate the feasibility of conducting in-person tobacco retailer assessments at multiple tobacco retailer store types.
- ▶ Similar to previous studies, we document lower prices for premium cigarette brands for on-base retailers, and on-base stores sell packs and cartons of cigarettes and smokeless tobacco for less than neighbouring retailers.
- ▶ Compared with off-base stores, on-base stores are also more likely to display interior price promotions for cigarettes and smokeless products, two products that are most widely used by Airmen.

**Amanda Kong, MPH**  
**akong2@live.unc.edu**



Upcoming podcast about tobacco use among military populations with Dr. Melissa Little (UVA)

Send questions in advance to [help@countertools.org](mailto:help@countertools.org)  
**Subject line: military tobacco use**

# References: Background (slide 9)

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# References: Past pricing studies (slide 13-15)

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