



# Tobacco Vendor Density In Ranchi and Siliguri, India

Institute for Global  
Tobacco Control



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# Disclosures

- Funding Source: The work was supported with funding from Bloomberg Philanthropies' Bloomberg Initiative to Reduce Tobacco Use ([www.bloomberg.org](http://www.bloomberg.org))
- Industry funding to investigator in the last 5 years: None
- Dr. Kennedy has been an unpaid expert witness in litigation against the tobacco industry.
- Off label medication uses discussed: N/A



# Tobacco Use in India

- India is the world's **2<sup>nd</sup>** leading **consumer of tobacco**
- Over **250 million** adults currently use tobacco in some form
- The Cigarettes and Other Tobacco Products Act (COTPA) prohibits sale of tobacco products within a 100-yard radius of any educational institution
- In 2017, all State governments were advised by Ministry of Health and Family Welfare to enforce the provisions of COTPA in point-of-sale environments





# What is already known?

- Tobacco is commonly sold in a variety of vendor locations including permanent structures, and mobile vendors like street cart
- Studies show higher tobacco vendor density is associated with increased youth experimentation, and increased tobacco use
- Tobacco retailers in proximity to schools is directly associated with youth tobacco use initiation

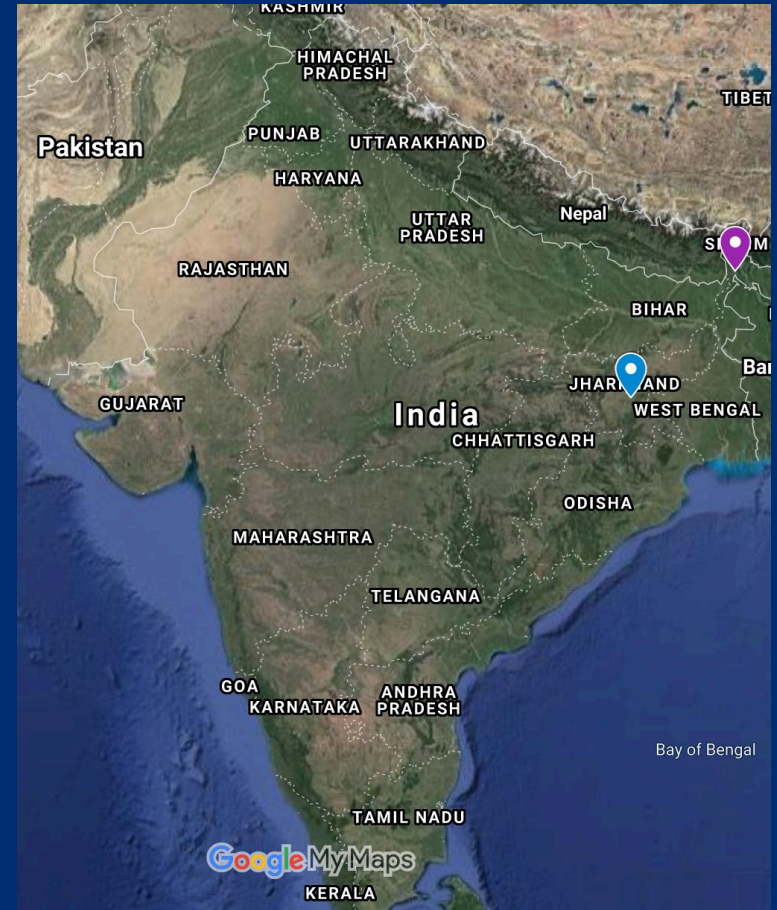


# Study Objectives

Little research has been done to understand tobacco vendor density in India

The study aimed to:

1. Assess the number and location of tobacco vendors in two cities, Ranchi and Siliguri
2. Identify tobacco vendors located within 100-yards of an educational institution

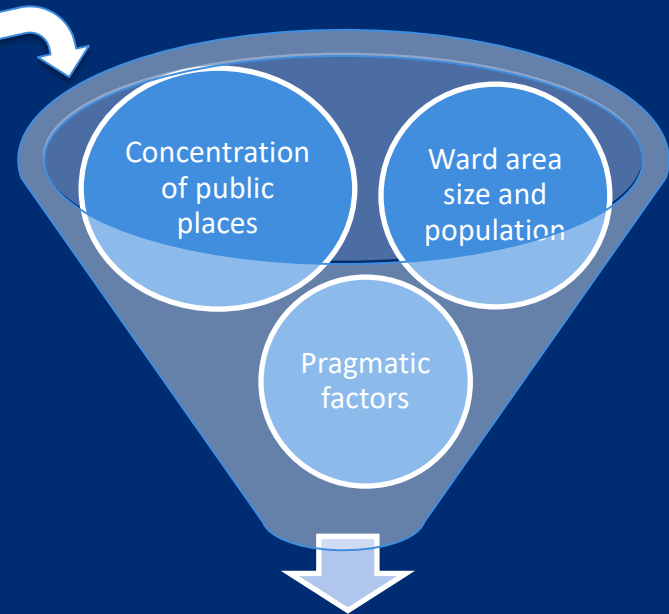


# METHODS



# Methods: Sampling Approach

A domestic research firm provided IGTC with a complete list of wards within Ranchi and Siliguri, and noted specific features in each ward such as educational institutions, retail markets, parks, places of worship, and public transportation



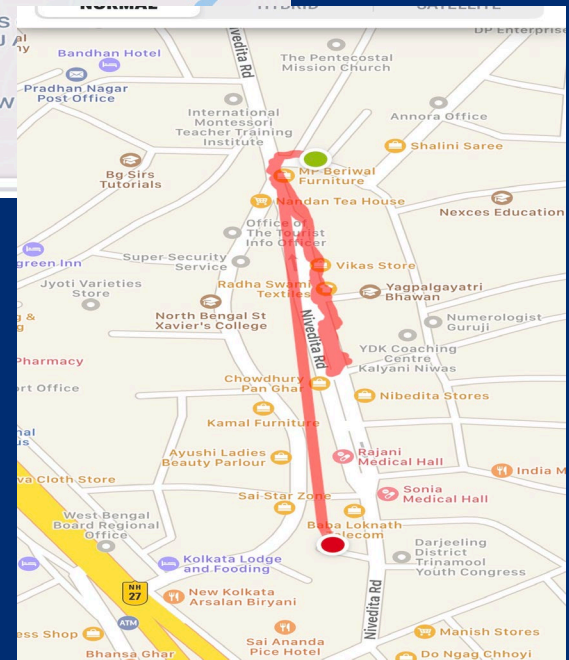
3 Wards in  
Ranchi

5 Wards in  
Siliguri



# Methods: Walking Protocol

- Goal: To conduct a census of tobacco retailers in each ward
- Data collectors walked in pairs to cover every street within their assigned wards
- They used two mobile applications:
  - **Google Maps**: To ensure they were conducting observations within the boundaries of the ward
  - **MapMyWalk**: To help trace the path and ensure that each street was only covered once





## Methods: Observation tool

- Once a tobacco vendor was identified, data collectors began the observation using ***Epicollect*** app on their phone.
- GPS locations of all tobacco retailers were recorded
- Based on their physical structure and permanence, tobacco vendors were classified as:
  - Independent store/supermarket
  - Permanent kiosk
  - Temporary kiosk
  - Street vendor



# Types of Vendors

**Permanent kiosk**



**Independent store/supermarket**



**Temporary kiosk**



**Street vendor**



Vendor-type	Definition
<b>Independent shop/supermarket</b>	Establishment that sells a limited variety of goods, including cigarettes, cleaning supplies, and food staples, including grocery/supermarkets
<b>Kiosk, permanent</b>	A small, permanent, enclosed structure, often freestanding, open on one side or with a window, used as a booth to sell cigarettes, bidis, paan products.
<b>Kiosk, temporary</b>	A small, temporary, enclosed structure, often freestanding, open on one side or with a window, used as a booth to sell cigarettes, bidis, paan products
<b>Street vendor</b>	Includes stands, tables, and pushcarts



# Analysis

- Spatial analyses were conducted using QGIS (v3.10)
- The location of tobacco vendors and educational institutions were mapped using GIS; only tobacco vendors that were physically in one of the wards that were part of the study were included in the sample.
- Tobacco vendor density was calculated by dividing the number of vendors by the area of each ward (vendor/km<sup>2</sup>)



# RESULTS

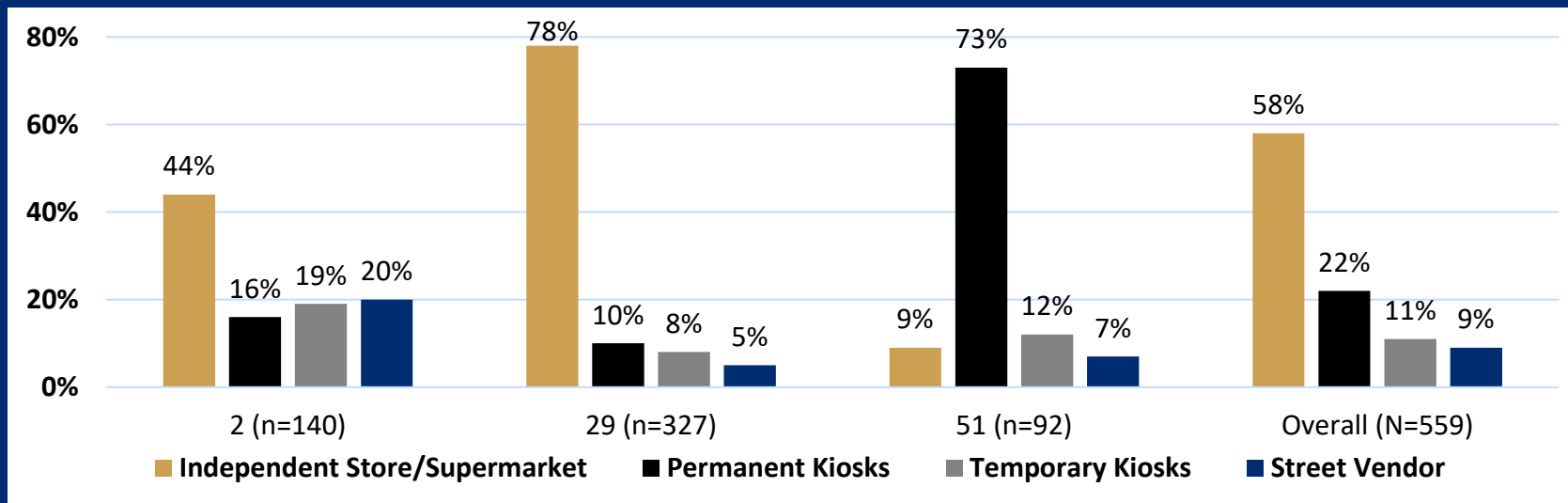




# Ranchi - Tobacco Vendor Count



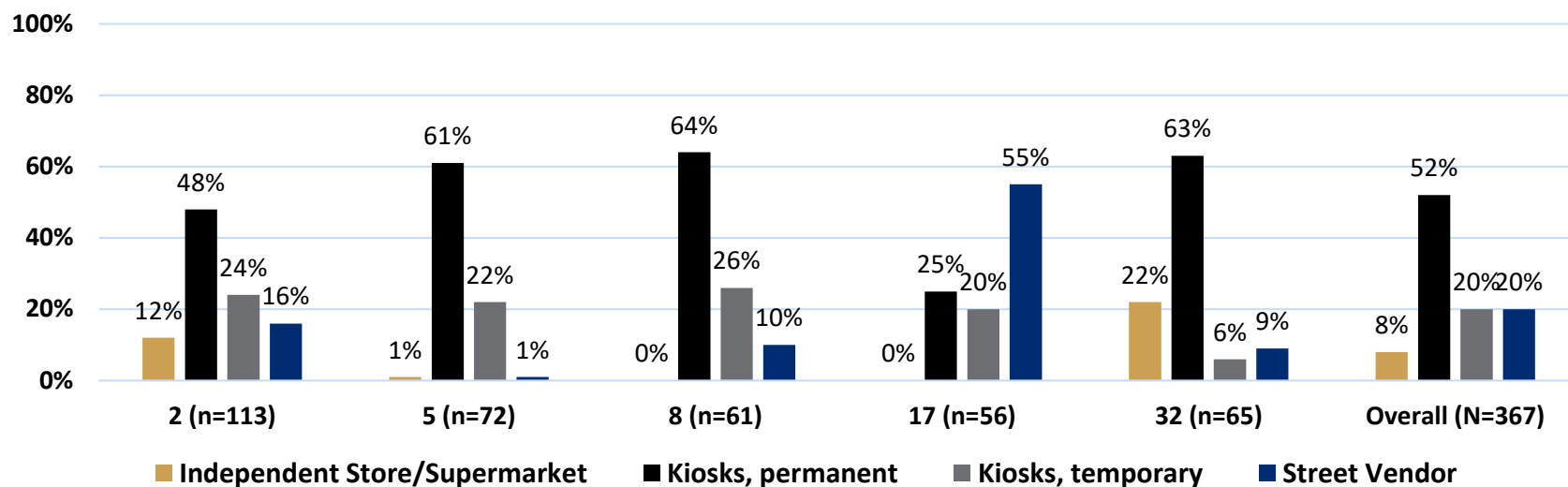
- Data collectors identified **N=559** tobacco vendors across 3 wards Ranchi
- The most common vendor-type was independent shop/supermarket (58%)



# Siliguri - Tobacco Vendor Count

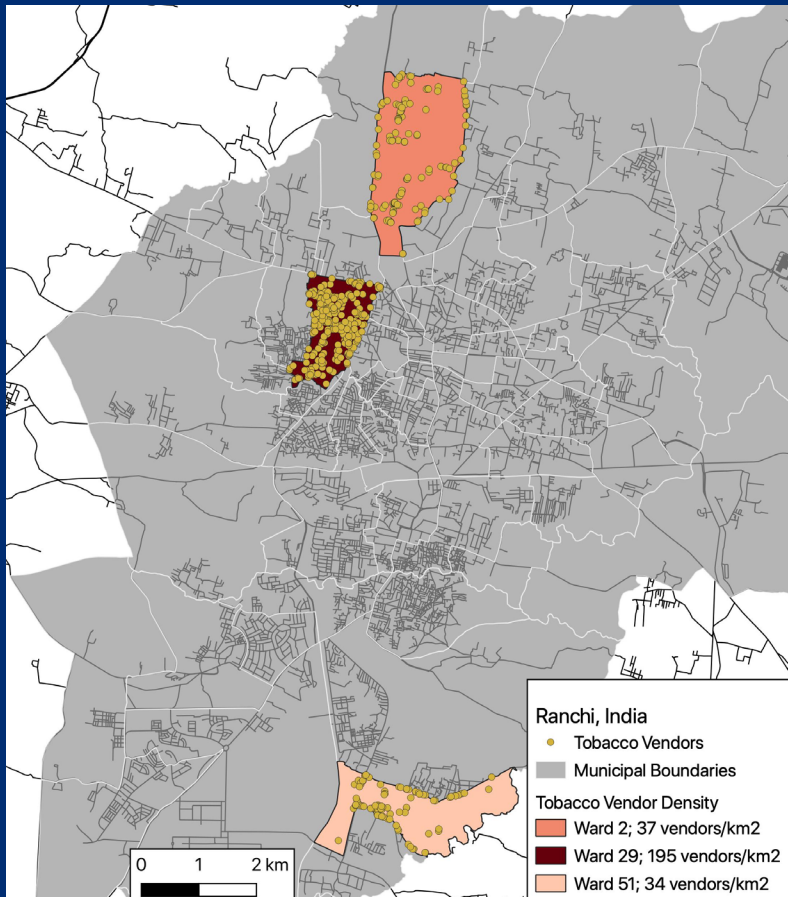


- Data collectors identified **N=367** tobacco vendors across 5 wards in **Siliguri**
- The most common vendor-type was permanent kiosk (52%)

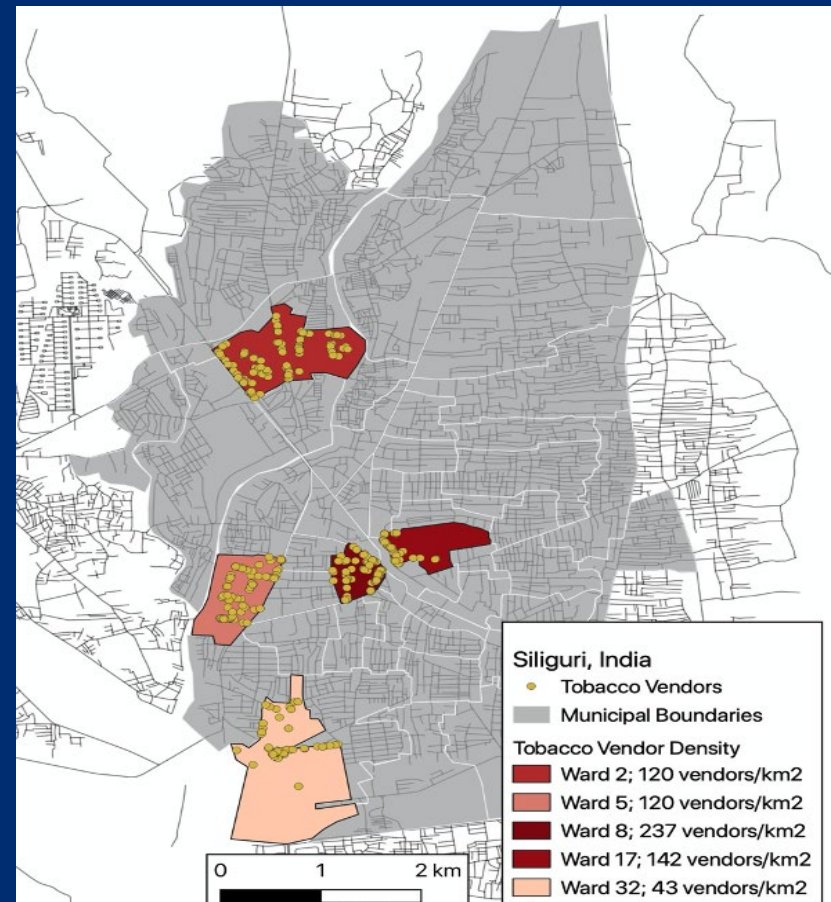


# Tobacco Vendor Density

**Ranchi: 68 tobacco vendors/km<sup>2</sup>**

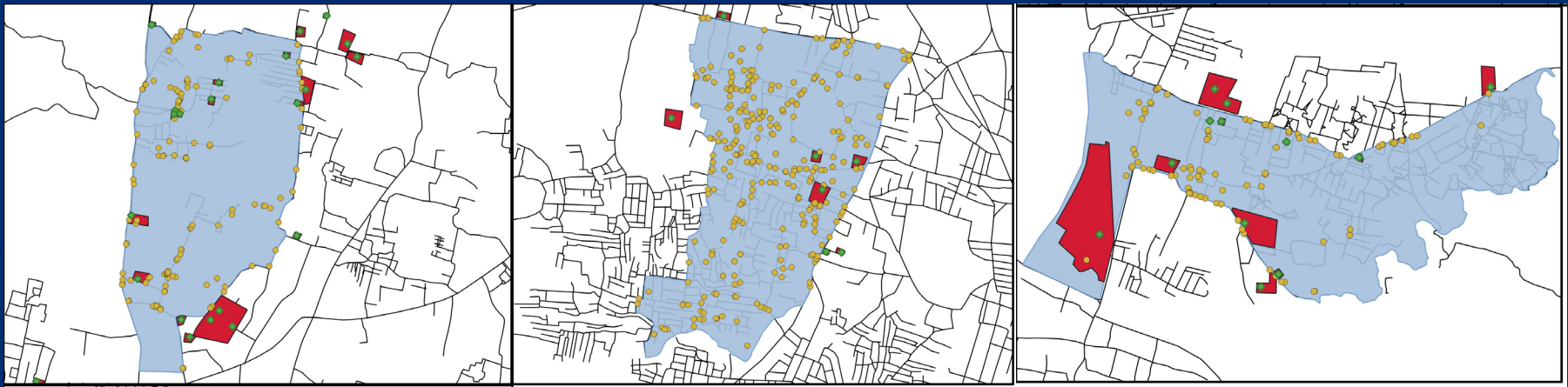


**Siliguri: 99 tobacco vendor/km<sup>2</sup>**



# Ranchi: Tobacco Vendor Density Around Educational Institutions

- **19% tobacco vendors** observed across the 3 wards were **within 100-yards of one or more schools**
- Approximately 4 tobacco vendors within 100 yards of each educational institution



Tobacco Vendors Near Schools: Ranchi, India

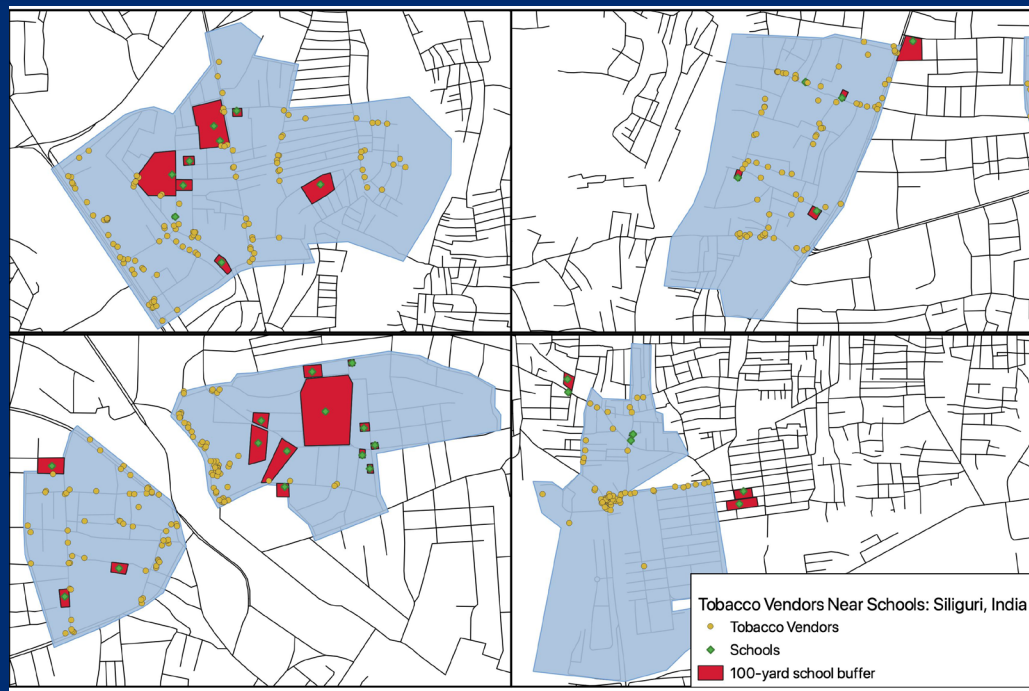
- Tobacco Vendors
- Schools
- 100-yard school buffer





# Siliguri: Tobacco Vendor Density Around Educational Institutions

- **23% tobacco vendors** observed across the 5 wards were **within 100-yards of one or more schools**
- Approximately 3 tobacco vendors within 100 yards of each educational institution

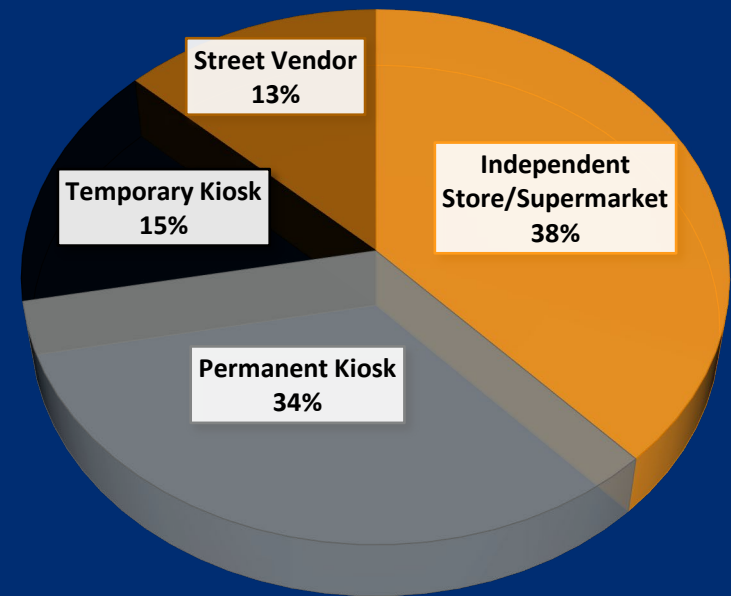


# CONCLUSION



# Summary / Discussion

- There is **high tobacco vendor density** in both cities [**Ranchi:68/km<sup>2</sup>**; **Siliguri: 99/km<sup>2</sup>**]. By comparison, **New York City**, one of the densest cities in the world, has approximately **16 tobacco vendors/km<sup>2</sup>**
- Among different vendor types, **72% were brick-and-mortar, or semi-permanent kiosks (15%), and 15% were mobile vendors**
- About **one-fifth of the tobacco vendors** identified across the studied wards were **located within 100-yards of one or more educational institution**



# Recommendations

- Policy approaches used around the world to reduce the number/density of tobacco vendors include tobacco vendor-licensing
- Establishing tobacco vendor licensing can help support the implementation of COTPA, including tobacco advertising/promotion restrictions





# Acknowledgement

- The International Union Against Tuberculosis and Lung Disease for providing feedback and background information
- The Postgraduate Institute of Medical Education and Research (PGIMER) for supporting data collection efforts

The Union





**Thank you for  
listening!**

**Any questions?**

