

## Documentation of Behavioral Risk Factor Counseling in Electronic Health Records: Results from a review of Medical Charts in New York City

Elizabeth Lurie MPH1, Kathleen Tatem MPH1, Pui Ying Chan MPH1, Sharon Perlman MPH1, Katharine McVeigh PhD MPH1

1) New York City Department of Health and Mental Hygiene

Poster Presentation:

Public Health Systems Research Interest Group at the 2016 AcademyHealth Annual Research Meeting, Boston, MA

Grant # 72450

Elizabeth Lurie MPH<sup>1</sup>, Kathleen Tatem MPH<sup>1</sup>, Pui Ying Chan MPH<sup>1</sup>, Sharon Perlman MPH<sup>1</sup>, Katharine McVeigh PhD MPH<sup>1</sup>  
 1) New York City Department of Health and Mental Hygiene

## Background

- By 2014, 83% of office-based physicians used an electronic health records (EHR).<sup>1</sup>
- The NYC MacroScope is a surveillance system that utilizes EHR data to monitor the prevalence of select health indicators.
- A chart review study was conducted to assess the validity of NYC MacroScope indicators.
- Within the chart review study, we conducted exploratory research on provider documentation of behavioral risk factor counseling.
- The U.S. Preventive Services Task Force recommend:
  - All adults are screened for obesity and clinicians refer patients with a BMI  $\geq 30$  kg/m<sup>2</sup> to a behavioral intervention.<sup>2</sup>
  - Clinicians ask all patients if they use tobacco products, advise them to stop, and to provide behavioral and/or medications.<sup>3</sup>

## Study Objective

To explore provider documentation of diet, exercise, weight loss, smoking, preventive medicine and/or risk factor counseling within EHRs.

## Study Design & Methods

### Data sources

- 2013-2014 New York City Health and Nutrition Examination Survey (NYC HANES)
  - A population-based survey of a random sample of New Yorkers aged 20 and older.
- NYC MacroScope chart review study
  - EHRs from primary care providers among a sub-sample of NYC HANES participants

### Sample included

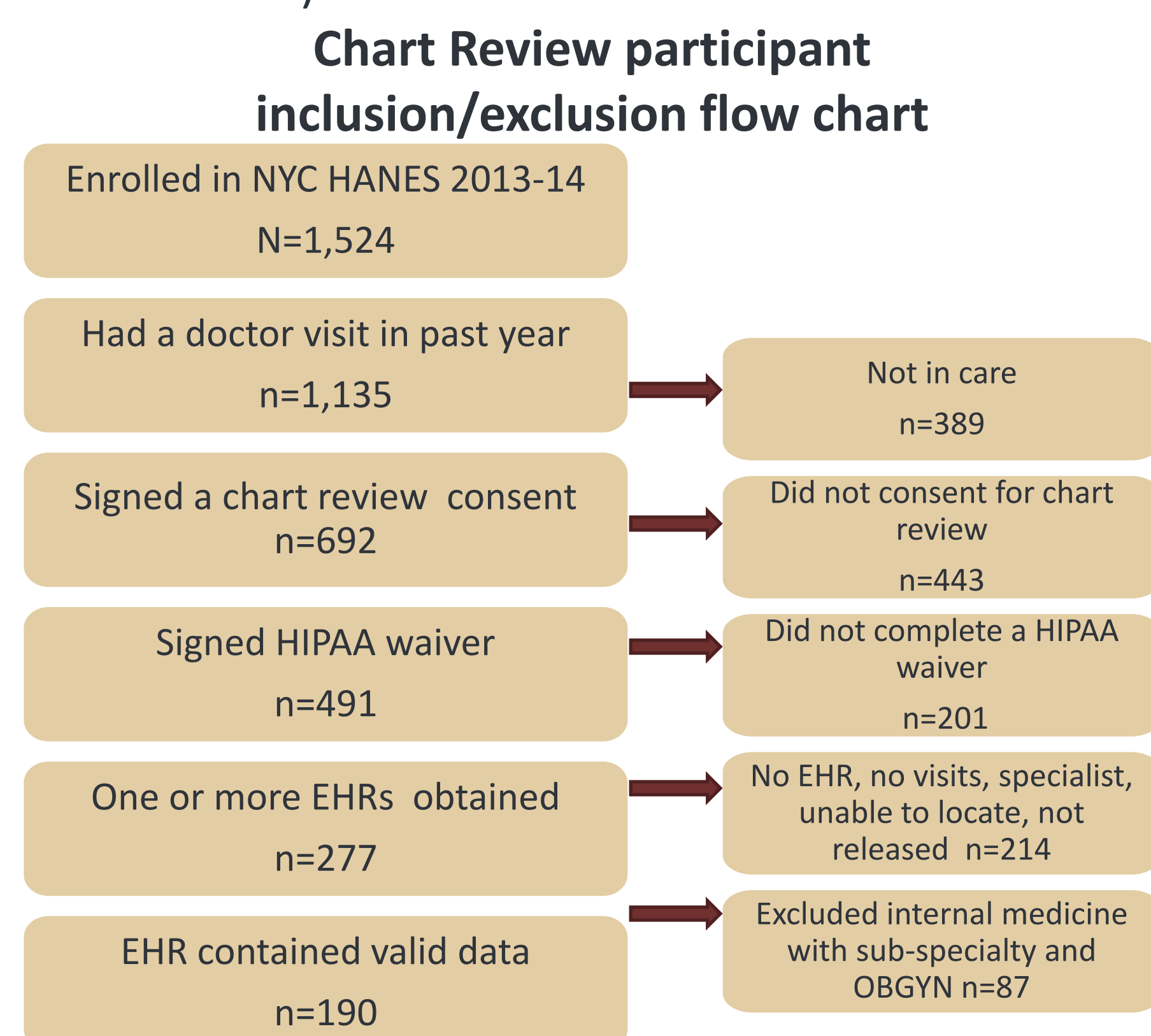
- 190 medical records from 119 practices using over 20 EHRs

### Strata

- Smoking status: self reported in NYC HANES
- BMI: measured in the EHR

### Analysis

- Obtained the frequency of each type of counseling stratified by location of the documentation in the EHRs (structured vs unstructured fields)



## Definitions

### Structured EHR data:

- Data recorded in a standardized format within the EHR.

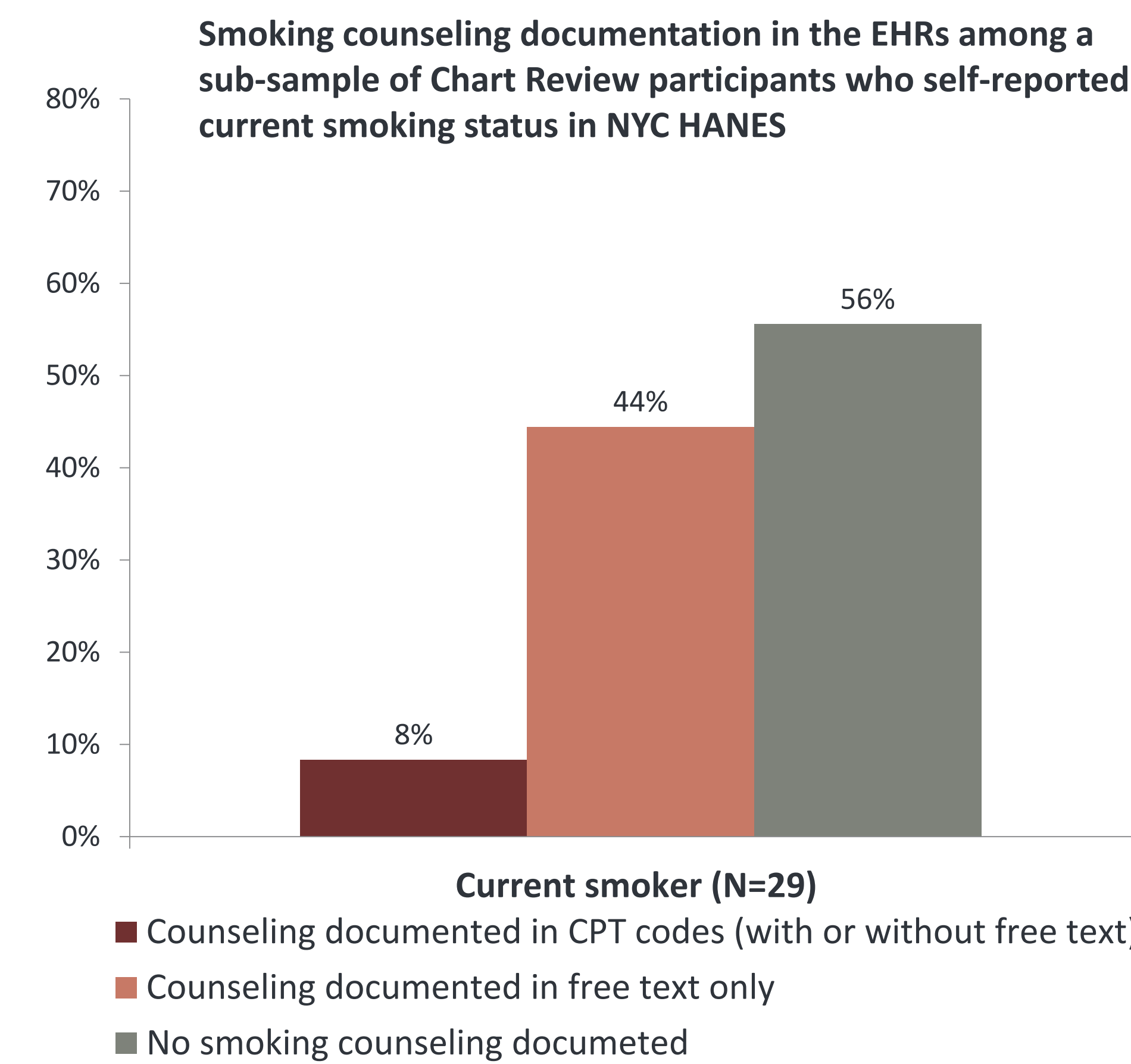
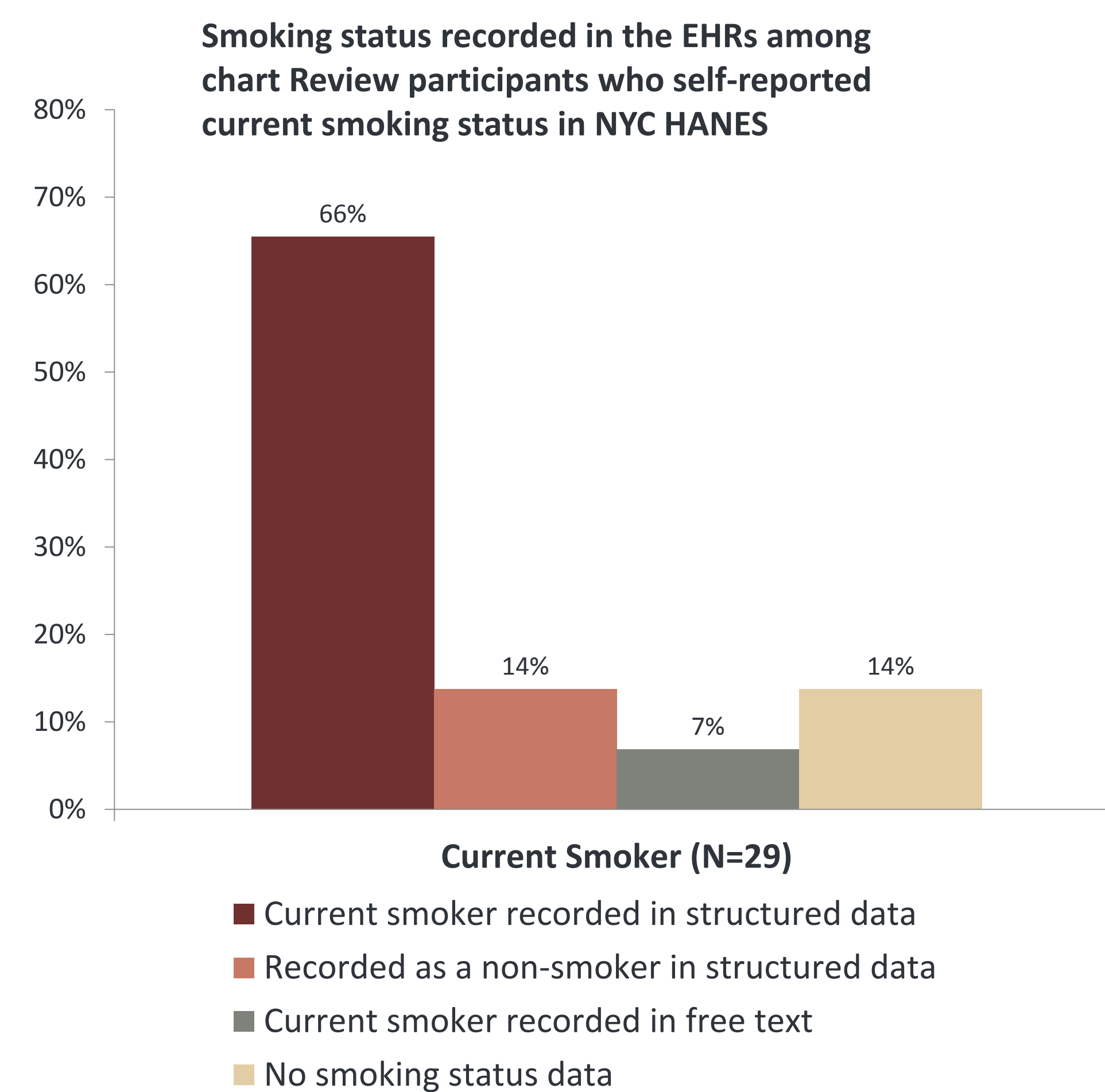
### Unstructured EHR data

- Data recorded as free text notes or scanned documents.

## Results

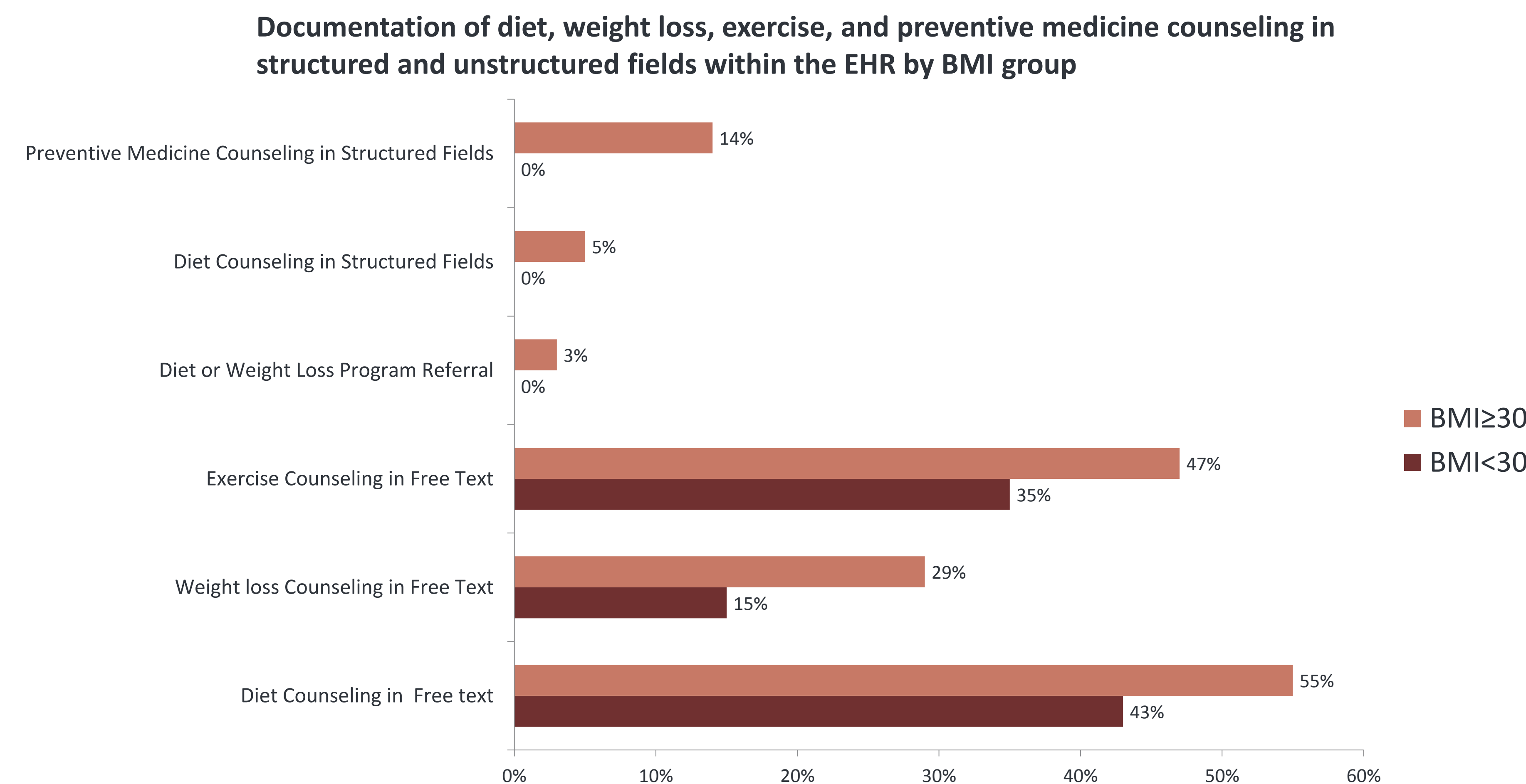
### Smoking Status

- Based on NYC HANES self-report data, there were 29 (15.3%) current smokers in the chart review sub-sample.



### Diet, weight loss, and exercise counseling

- 66 (34.9%) participants in the chart review sub-sample had a BMI  $\geq 30$



## Key Findings

### Smoking

- Among self-reported smokers, a majority (66%) were recorded as smokers in a structured field and less than half had any indication of cessation counseling.

### Diet, weight loss, and exercise counseling

- Dietary counseling was documented most frequently in the free text (96%), and more often provided to individuals with a BMI  $\geq 30$ .
- Weight loss counseling was documented for 19% of the sample, and exercise counseling was provided to 39%, all recorded in the free text.

## Conclusion

- Smoking status was not consistently captured in the EHR and smoking cessation counseling was not documented among all smokers.
- Providers are more frequently documenting diet and weight loss counseling among obese patients than non-obese patients.
- Behavioral counseling documentation was recorded mainly as free text and was not identified in structured fields other than current procedural terminology (CPT) codes
- Collecting and analyzing free text data requires significant time, or natural language processing capacity.
- Providers may be providing behavioral risk factor counseling, but not documenting it within the EHR.
- Limitations of this study are the small sample size, and the inability to distinguish the lack of counseling from a lack of documentation.

## Implications

- EHRs are a useful tool for public health researchers focused on health outcomes, but currently present challenges when investigating provider counseling for smoking, diet, exercise and weight loss.
- Including additional structured fields in the EHR to document behavioral risk factor counseling may improve standardization across providers and provide better data for monitoring and evaluating such counseling.
- Improved knowledge of the counseling services offered by providers can inform gaps and needs in services

## References

- Jamoom E, Yang N, Hing E. Percentage of office-based physicians using any electronic health records or electronic medical records, physicians that have a basic system, and physicians that have a certified system, by state: United States, 2014 (table). 2015.
- Moyer VA, U.S. Preventative Services Task Force. Screening for and Management of Obesity in Adults: U.S. Preventive Services Task Force Recommendation Statement. Annals of Internal Medicine. 2012;157:373-8.
- LeFevre ML, U.S. Preventative Services Task Force. Behavioral Counseling to Promote a Healthful Diet and Physical Activity for Cardiovascular Disease Prevention in Adults With Cardiovascular Risk Factors: U.S. Preventive Services Task Force Recommendation Statement. Annals of Internal Medicine. 2014;161:587-93.
- Siu AL, U.S. Preventative Services Task Force. Behavioral and Pharmacotherapy Interventions for Tobacco Smoking Cessation in Adults, Including Pregnant Women: U.S. Preventive Services Task Force Recommendation Statement. Annals of Internal Medicine. 2015;163:622-34.