

# Dietary Quality and Nutrient Intakes Among Opioid Users in the United States

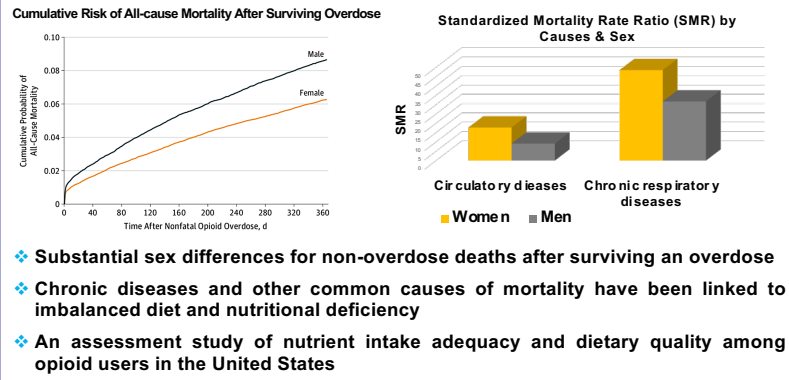
## Results from the NHANES 2005-2014

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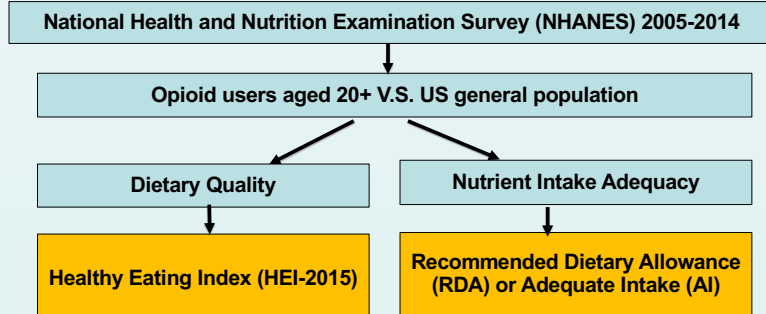


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### Background



### Methods



### Key Findings

- Compared with the general population, opioid users consistently had poorer dietary quality from 2005 through 2014
- A higher percentage of opioid users consumed insufficient vegetables and fruits and high levels of saturated fat and added sugar
- Opioid users had a higher prevalence of insufficient intake for most nutrients
- Insufficient dietary intakes of potassium, vitamin E and choline were very common in opioid users especially female opioid users, with insufficiency rates ranging from 80% to 95%
- Female opioid users aged 31 years and older consumed significantly lower intakes for most nutrients compared to their female counterparts in the general population

### Results

Table 1. HEI-2015 among opioid users and the US general population

	Opioid user N=2,079 Mean ± SE	All population N=31,194 Mean ± SE	P value
TOTAL HEI-2015 SCORE	51.01±0.51	53.56±0.19	<.0001
TOTAL VEGETABLES	3.06±0.04	3.28±0.02	<.0001
GREENS AND BEANS	1.55±0.06	1.88±0.03	0.3833
TOTAL FRUIT	2.20±0.06	2.41±0.02	0.047
WHOLE FRUIT	2.22±0.07	2.51±0.02	0.0109
WHOLE GRAINS	2.51±0.09	2.71±0.03	0.4149
DAIRY	5.40±0.12	5.46±0.04	0.3216
TOTAL PROTEIN FOODS	4.36±0.04	4.45±0.01	0.0478
SEAFOOD AND PLANT PROTEIN	2.56±0.09	2.79±0.03	0.2732
FATTY ACID RATIO	4.43±0.15	4.94±0.04	0.0221
SODIUM	4.41±0.12	4.11±0.04	0.0721
REFINED GRAINS	6.60±0.12	6.19±0.04	0.0077
SAT FAT	5.65±0.13	6.14±0.04	0.0211
ADDED SUGAR	6.06±0.13	6.68±0.04	0.014

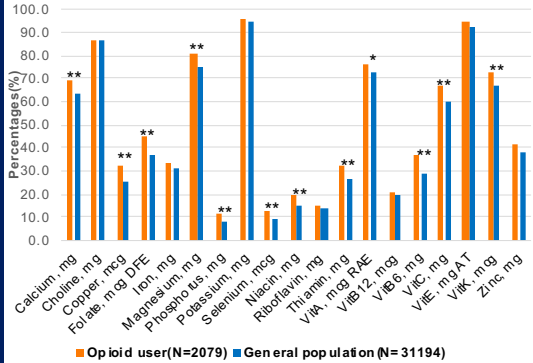


Figure 1. Insufficient Dietary Nutrient Intake (%) Below RDA or AI among Opioid Users Compared to US Adults Aged 20 Years and Older in NHANES 2005-2014

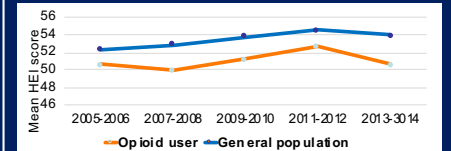


Figure 2. Secular Trends of Mean HEI Score among Opioid Users and the General Population

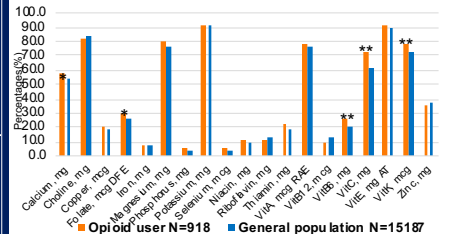


Figure 3. Insufficient Dietary Nutrient Intake (%) Below RDA or AI among Male Opioid Users Compared to Male US Adults

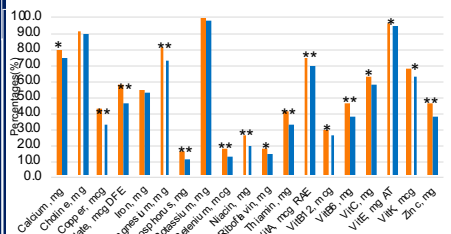


Figure 4. Insufficient Dietary Nutrient Intake (%) Below RDA or AI among Female Opioid Users Compared to Female US Adults

### Conclusion

- From 2005 through 2014, US opioid users had poorer dietary quality than the general population
- The high prevalence of insufficient intakes for most nutrients in middle- and older-aged female opioid users requires attention; Health care providers should assess dietary quality and adequacy of nutrient intake when prescribing opioids, particularly in women aged 31 years and older
- Our observations lead to the hypothesis that imbalanced diet and nutritional deficiency may play a key role in the increasing mortality of opioid users, especially non-overdose death among female opioid users