

Comparing the nutrient intakes of Canadian adults to the Dietary Reference Intakes (DRIs): Results from CCHS 2015 – Nutrition

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Background and Objective

- Up-to-date, accurate estimates of the usual intakes of key nutrients are important for monitoring the nutritional adequacy and diet quality of Canadians.
- Comprehensive, nationally-representative nutrient estimates for Canadians by DRI age-sex group are available using data from the Canadian Community Health Survey (CCHS) 2004 – Nutrition¹, but not for the most recent 2015 data.
- OBJECTIVE:** To assess nutrient inadequacy among Canadian adults (≥19 years) using data from CCHS 2015 – Nutrition, and through application of the National Cancer Institute (NCI) Method for estimating usual intake.

Methods

- Both available dietary recalls from the CCHS 2015 Public Use Microdata Files (PUMF) were used; exclusions included those under 19 years, breastfeeding women and those with invalid energy intake ($n = 11,992$).
- Outliers with implausible nutrient intakes were removed as defined by previous Health Canada criteria using data from CCHS 2015 – Nutrition².
- Usual nutrient intakes were estimated using the NCI Method adjusted for age, sex, misreporting, weekend/weekday and sequence of recall analyzed (first/second)³.
- Derived usual intakes were assessed for inadequacy in relation to the Dietary Reference Intakes (DRIs), including Acceptable Macronutrient Distribution Range (AMDR), Estimated Average Requirement (EAR) or Adequate Intake (AI).

Results

Figure 1. Mean % of total energy from carbohydrates, total fat, protein and saturated fatty acids for Canadian adults ≥ 19 years

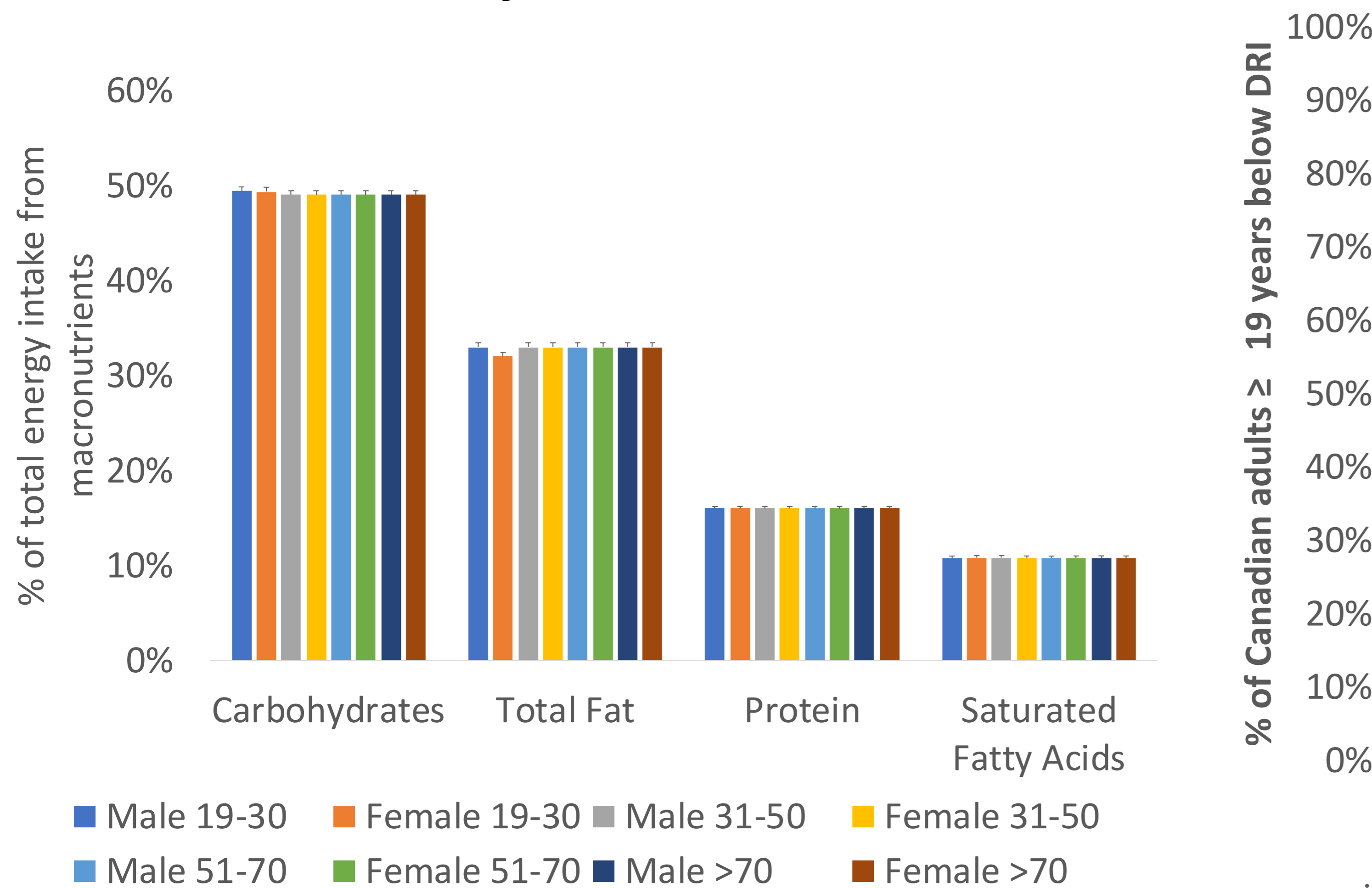
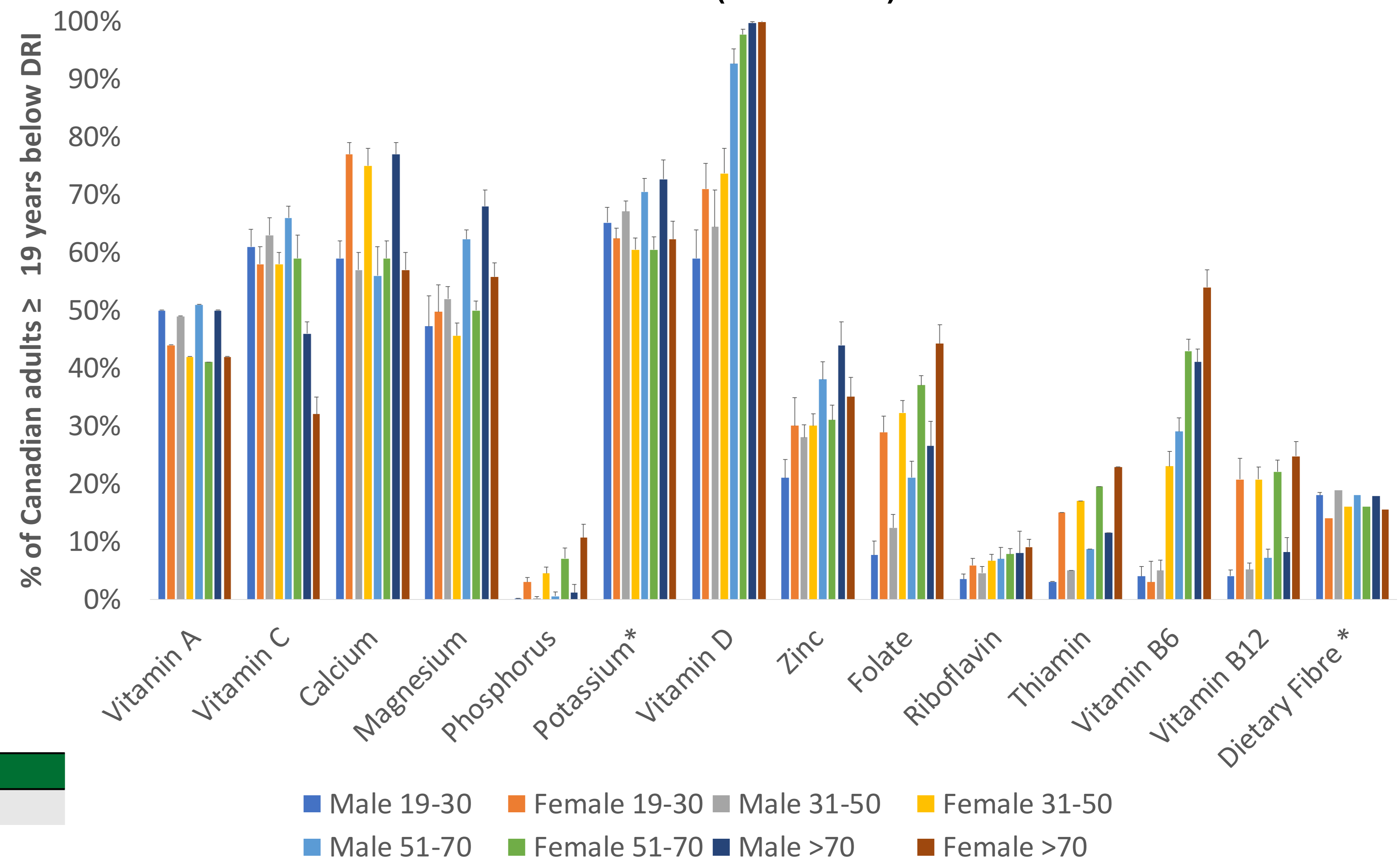


Figure 2. Percentage of Canadian adults ≥ 19 years below Dietary Reference Intakes (EAR or AI)



Acceptable Macronutrient Distribution Ranges (AMDR)

	Carbohydrates	Total Fat	Protein
19 years and over	45-65%	20-35%	10-35%

- Nearly 100% of males and females, 19 years and older, consumed protein in quantities within the AMDR (**Figure 1**).
- With respect to carbohydrates and total fat intakes, 70% and 66% Canadian adults, respectively, had intakes within the AMDR (**Figure 1**).
- The mean percent of Canadian adults' total energy from saturated fat was approximately 10% (**Figure 1**).
- Similar to the 2004 findings, many adults were found to have inadequate intakes of Vitamin D, magnesium, calcium (**Figure 2**).
- Compared to 2004, a higher percentage (32%-66%) of Canadian adults were found to have inadequate intakes of Vitamin C (**Figure 2**).
- For nutrients with an Adequate Intake, there may be a concern that adults may not be meeting their needs for potassium (**Figure 2**).

Data from CCHS PUMF 2015 – Nutrition. Both available 24 hr recalls were used, and outliers removed according to Davis et al. ². All estimates were derived using the National Cancer Institute (NCI) method for estimating usual intake; all estimates were survey-weighted and bootstrapped to ensure population-level estimates and accurate coefficients of variation. All nutrients have an EAR unless starred*, in which case they have an AI. Note: 0% of the population were below the EAR for niacin (data not shown).

Conclusions

- Many Canadian adults may not be meeting recommendations for shortfall nutrients such as potassium, magnesium, calcium and vitamin D.
- These results highlight nutrients of concern by specific age-sex groups that may be important for public health interventions aimed at improving diet quality and nutrient adequacy for Canadian adults.
- Canadian Adults should be encouraged to consume nutrient-rich foods and follow Canada's Food Guide.

References

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