



Canadian Health Measures Survey

Canadian Health Measures Survey (CHMS)

Cycle 1 Wave 3

Derived Variable (DV) Specifications



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Introduction

The Canadian Health Measures Survey (CHMS) is the most extensive national survey on physical health measures ever conducted in the country. Data collection consists of two steps, a personal interview at the respondent's household followed later by a visit to the CHMS mobile clinic where physical measurements and blood and urine samples are taken.

The CHMS captures a broad portrait of the health of Canadians by gathering baseline data on a variety of concerns, including cardiovascular health, nutritional status, chronic diseases and physical activity, as well as exposure to infectious diseases and environmental contaminants. The survey collects health information that can't be otherwise captured, or that may be inaccurately reported, through self-report questionnaires or health care records.

The CHMS is conducted by Statistics Canada in partnership with Health Canada and the Public Health Agency of Canada.

During CHMS cycle 1, physical measurements were collected in 15 sites across Canada from about 5,600 people representing the Canadian population aged 6 to 79. Collection sites were located in five provinces: New Brunswick, Quebec, Ontario, Alberta and British Columbia. Collection started in March 2007 and continued until February 2009. Data are representative at the national level.

This publication is part of the release of CHMS data beginning in January 2010. It provides information on the composition of the derived variables created both during and after data processing for the Wave 3 release. Additional volumes will be provided for future releases.

For additional information about the Canadian Health Measures Survey:

Toll-free number:	1-888-253-1087
E-mail:	chms-ecms@statcan.gc.ca
Telecommunication device for the hearing impaired:	1-866-753-7083
Statistics Canada website:	www.statcan.gc.ca/chms

Urine tests (29 DVs)

1) LABD24D – 2,4-D standardized with urine creatinine

Variable name: LABD24D

Based on: LAB_24D, LAB_UCRE

Description: This variable indicates the concentration of 2,4-D (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). 2,4-D is standardized with creatinine in order to correct for urine dilution.

Note: Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 99.99995).

LABD24D Specifications

Value	Condition(s)	Description	Notes
Round(LAB_24D / (LAB_UCRE / 8.84), .5)	LAB_24D < BD and LAB_UCRE < BD	2,4-D standardized with urine creatinine	Rounded to 5 decimal places
99.99996	LAB_24D = NA	Population exclusions	NA
99.99999	Else		NS

2) LABD24DC – 2,4-dichlorophenol standardized with urine creatinine

Variable name: LABD24DC

Based on: LAB_24DC, LAB_UCRE

Description: This variable indicates the concentration of 2,4-dichlorophenol (standardized with creatinine) in the urine sample of the respondent, and is measured in micrograms per gram ($\mu\text{g/g}$). 2,4-dichlorophenol is standardized with creatinine in order to correct for urine dilution in spot urine samples.

Note: Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.9995).

LABD24DC Specifications

Value	Condition(s)	Description	Notes
Round(LAB_24DC / (LAB_UCRE / 8.84), .4)	LAB_24DC < BD and LAB_UCRE < BD	2,4-dichlorophenol standardized with urine creatinine	Rounded to 4 decimal places
999.9996	LAB_24DC = NA	Population exclusions	NA
999.9999	Else		NS

3) LABD3PBA – 3-PBA standardized with urine creatinine**Variable name:** LABD3PBA**Based on:** LAB_3PBA, LAB_UCRE**Description:** This variable indicates the concentration of 3-PBA (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). 3-PBA is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.99995).**LABD3PBA Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_3PBA / (LAB_UCRE / 8.84), .5)	LAB_3PBA < BD and LAB_UCRE < BD	3-PBA standardized with urine creatinine	Rounded to 5 decimal places
999.99996	LAB_3PBA = NA	Population exclusions	NA
999.99999	Else		NS

4) LABD4F3P – 4-F-3-PBA standardized with urine creatinine**Variable name:** LABD4F3P**Based on:** LAB_4F3P, LAB_UCRE**Description:** This variable indicates the concentration of 4-F-3-PBA (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). 4-F-3-PBA is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 99.999995).**LABD4F3P Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_4F3P / (LAB_UCRE / 8.84), .6)	LAB_4F3P < BD and LAB_UCRE < BD	4-F-3-PBA standardized with urine creatinine	Rounded to 6 decimal places
99.999996	LAB_4F3P = NA	Population exclusions	NA
99.999999	Else		NS

5) LABDBPA – Bisphenol A standardized with urine creatinine**Variable name:** LABDBPA**Based on:** LAB_BPA, LAB_UCRE**Description:** This variable indicates the concentration of bisphenol A (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). Bisphenol A is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.9995).**LABDBPA Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_BPA / (LAB_UCRE / 8.84), .4)	LAB_BPA < BD and LAB_UCRE < BD	Bisphenol A standardized with urine creatinine	Rounded to 4 decimal places
999.9996	LAB_BPA = NA	Population exclusions	NA
999.9999	Else		NS

6) LABDCDBC – cis-DBCA standardized with urine creatinine**Variable name:** LABDCDBC**Based on:** LAB_CDDBC, LAB_UCRE**Description:** This variable indicates the concentration of cis-DBCA (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). cis-DBCA is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 9.999995).**LABDCDBC Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_CDDBC / (LAB_UCRE / 8.84), .6)	LAB_CDDBC < BD and LAB_UCRE < BD	cis-DBCA standardized with urine creatinine	Rounded to 6 decimal places
9.999996	LAB_CDDBC = NA	Population exclusions	NA
9.999999	Else		NS

7) LABDCDCC – cis-DCCA standardized with urine creatinine**Variable name:** LABDCDCC**Based on:** LAB_CDCC, LAB_UCRE**Description:** This variable indicates the concentration of cis-DCCA (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). cis-DCCA is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 99.999995).**LABDCDCC Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_CDCC / (LAB_UCRE / 8.84), .6)	LAB_CDCC < BD and LAB_UCRE < BD	cis-DCCA standardized with urine creatinine	Rounded to 6 decimal places
99.999996	LAB_CDCC = NA	Population exclusions	NA
99.999999	Else		NS

8) LABDCOT – Cotinine standardized with urine creatinine**Variable name:** LABDCOT**Based on:** LAB_COT, LAB_UCRE**Description:** This variable indicates the concentration of free cotinine (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). Cotinine is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 99999.9995).**LABDCOT Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_COT / (LAB_UCRE / 8.84), .4)	LAB_COT < BD and LAB_UCRE < BD	Cotinine standardized with urine creatinine	Rounded to 4 decimal places
99999.9996	LAB_CDCC = NA	Population exclusions	NA
99999.9999	Else		NS

9) LABDDEDT – DEDTP standardized with urine creatinine**Variable name:** LABDDEDT**Based on:** LAB_DEDT, LAB_UCRE**Description:** This variable indicates the concentration of DEDTP (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). DEDTP is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 99.9995).**LABDDEDT Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_DEDT / (LAB_UCRE / 8.84), .4)	LAB_DEDT < BD and LAB_UCRE < BD	DEDTP standardized with urine creatinine	Rounded to 4 decimal places
99.9996	LAB_DEDT = NA	Population exclusions	NA
99.9999	Else		NS

10) LABDDEP – DEP standardized with urine creatinine**Variable name:** LABDDEP**Based on:** LAB_DEP, LAB_UCRE**Description:** This variable indicates the concentration of DEP (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). DEP is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.9995).**LABDDEP Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_DEP / (LAB_UCRE / 8.84), .4)	LAB_DEP < BD and LAB_UCRE < BD	DEP standardized with urine creatinine	Rounded to 4 decimal places
999.9996	LAB_DEP = NA	Population exclusions	NA
999.9999	Else		NS

11) LABDDETP – DETP standardized with urine creatinine**Variable name:** LABDDETP**Based on:** LAB_DETP, LAB_UCRE**Description:** This variable indicates the concentration of DETP (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). DETP is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.9995).**LABDDETP Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_DETP / (LAB_UCRE / 8.84), .4)	LAB_DETP < BD and LAB_UCRE < BD	DETP standardized with urine creatinine	Rounded to 4 decimal places
999.9996	LAB_DETP = NA	Population exclusions	NA
999.9999	Else		NS

12) LABDDMDT – DMDTP standardized with urine creatinine**Variable name:** LABDDMDT**Based on:** LAB_DMDT, LAB_UCRE**Description:** This variable indicates the concentration of DMDTP (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). DMDTP is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.99995).**LABDDMDT Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_DMDT / (LAB_UCRE / 8.84), .5)	LAB_DMDT < BD and LAB_UCRE < BD	DMDTP standardized with urine creatinine	Rounded to 5 decimal places
999.99996	LAB_DMDT = NA	Population exclusions	NA
999.99999	Else		NS

13) LABDDMP – DMP standardized with urine creatinine**Variable name:** LABDDMP**Based on:** LAB_DMP, LAB_UCRE**Description:** This variable indicates the concentration of DMP (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). DMP is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.9995).**LABDDMP Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_DMP / (LAB_UCRE / 8.84), .4)	LAB_DMP < BD and LAB_UCRE < BD	DMP standardized with urine creatinine	Rounded to 4 decimal places
999.9996	LAB_DMP = NA	Population exclusions	NA
999.9999	Else		NS

14) LABDMTP – DMTP standardized with urine creatinine**Variable name:** LABDMTP**Based on:** LAB_DMTP, LAB_UCRE**Description:** This variable indicates the concentration of DMTP (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). DMTP is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 9999.9995).**LABDMTP Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_DMTP / (LAB_UCRE / 8.84), .4)	LAB_DMTP < BD and LAB_UCRE < BD	DMTP standardized with urine creatinine	Rounded to 4 decimal places
9999.9996	LAB_DMTP = NA	Population exclusions	NA
9999.9999	Else		NS

15) LABDMCR – Microalbumin / creatinine ratio**Variable name:** LABDMCR**Based on:** LAB_MALB, LAB_UCRE**Description:** This variable indicates the ratio of microalbumin to creatinine in the urine sample of the respondent and is measured in milligrams per millimole (mg/mmol).**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.95).**LABDMCR Specifications**

Value	Condition(s)	Description	Notes
Round(((LAB_MALB * 1000) / LAB_UCRE), .2)	LAB_MALB < BD and LAB_UCRE < BD	Microalbumin/creatinine ratio	Rounded to 2 decimal places
999.96	LAB_MALB = NA and LAB_UCRE = NA	Population exclusions	NA
999.99	Else		NS

16) LABDTDCC – trans-DCCA standardized with urine creatinine**Variable name:** LABDTDCC**Based on:** LAB_TDCC, LAB_UCRE**Description:** This variable indicates the concentration of trans-DCCA (standardized with creatinine) in the urine sample of the respondent and is measured in micrograms per gram ($\mu\text{g/g}$). trans-DCCA is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 99.999995).**LABDTDCC Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_TDCC / (LAB_UCRE / 8.84), .6)	LAB_TDCC < BD and LAB_UCRE < BD	trans-DCCA standardized with urine creatinine	Rounded to 6 decimal places
99.999996	LAB_TDCC = NA	Population exclusions	NA
99.999999	Else		NS

17) LABDUAS – Total arsenic standardized with urine creatinine**Variable name:** LABDUAS**Based on:** LAB_UAS, LAB_UCRE**Description:** This variable indicates the concentration of total arsenic (standardized with creatinine) in the urine sample of the respondent and is measured in micromoles per millimole ($\mu\text{mol/mmol}$). Total arsenic is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 9.999995).**LABDUAS Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_UAS / (LAB_UCRE / 8.84), .6)	LAB_UAS < BD and LAB_UCRE < BD	Total arsenic standardized with urine creatinine	Rounded to 6 decimal places
9.999996	LAB_UAS = NA	Population exclusions	NA
9.999999	Else		NS

18) LABDUCD – Cadmium standardized with urine creatinine**Variable name:** LABDUCD**Based on:** LAB_UCD, LAB_UCRE**Description:** This variable indicates the concentration of cadmium (standardized with creatinine) in the urine sample of the respondent and is measured in nanomoles per millimole (nmol/mmol). Cadmium is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 99.99995).**LABDUCD Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_UCD / (LAB_UCRE / 8.84), .5)	LAB_UCD < BD and LAB_UCRE < BD	Cadmium standardized with urine creatinine	Rounded to 5 decimal places
99.99996	LAB_UCD = NA	Population exclusions	NA
99.99999	Else		NS

19) LABDUCU – Copper standardized with urine creatinine**Variable name:** LABDUCU**Based on:** LAB_UCU, LAB_UCRE**Description:** This variable indicates the concentration of copper (standardized with creatinine) in the urine sample of the respondent and is measured in micromoles per millimole (µmol/mmol). Copper is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 9.999995).**LABDUCU Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_UCU / (LAB_UCRE / 8.84), .7)	LAB_UCU < BD and LAB_UCRE < BD	Copper standardized with urine creatinine	Rounded to 7 decimal places
9.999996	LAB_UCU = NA	Population exclusions	NA
9.999999	Else		NS

20) LABDUHG – Mercury standardized with urine creatinine**Variable name:** LABDUHG**Based on:** LAB_UHG, LAB_UCRE**Description:** This variable indicates the concentration of mercury (standardized with creatinine) in the urine sample of the respondent and is measured in nanomoles per millimole (nmol/mmol). Mercury is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 99.99995).**LABDUHG Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_UHG / (LAB_UCRE / 8.84), .5)	LAB_UHG < BD and LAB_UCRE < BD	Mercury standardized with urine creatinine	Rounded to 5 decimal places
99.99996	LAB_UHG = NA	Population exclusions	NA
99.99999	Else		NS

21) LABDUMN – Manganese standardized with urine creatinine**Variable name:** LABDUMN**Based on:** LAB_UMN, LAB_UCRE**Description:** This variable indicates the concentration of manganese (standardized with creatinine) in the urine sample of the respondent and is measured in nanomoles per millimole (nmol/mmol). Manganese is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.99995).**LABDUMN Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_UMN / (LAB_UCRE / 8.84), .5)	LAB_UMN < BD and LAB_UCRE < BD	Manganese standardized with urine creatinine	Rounded to 5 decimal places
999.99996	LAB_UMN = NA	Population exclusions	NA
999.99999	Else		NS

22) LABDUMO – Molybdenum standardized with urine creatinine**Variable name:** LABDUMO**Based on:** LAB_UMO, LAB_UCRE**Description:** This variable indicates the concentration of molybdenum (standardized with creatinine) in the urine sample of the respondent and is measured in nanomoles per millimole (nmol/mmol). Molybdenum is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.999995).**LABDUMO Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_UMO / (LAB_UCRE / 8.84), .7)	LAB_UMO < BD and LAB_UCRE < BD	Molybdenum standardized with urine creatinine	Rounded to 7 decimal places
999.9999996	LAB_UMO = NA	Population exclusions	NA
999.9999999	Else		NS

23) LABDUNI – Nickel standardized with urine creatinine**Variable name:** LABDUNI**Based on:** LAB_UNI, LAB_UCRE**Description:** This variable indicates the concentration of nickel (standardized with creatinine) in the urine sample of the respondent and is measured in nanomoles per millimole (nmol/mmol). Nickel is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.99995).**LABDUNI Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_UNI / (LAB_UCRE / 8.84), .5)	LAB_UNI < BD and LAB_UCRE < BD	Nickel standardized with urine creatinine	Rounded to 5 decimal places
999.99996	LAB_UNI = NA	Population exclusions	NA
999.99999	Else		NS

24) LABDUPB – Lead standardized with urine creatinine**Variable name:** LABDUPB**Based on:** LAB_UPB, LAB_UCRE**Description:** This variable indicates the concentration of lead (standardized with creatinine) in the urine sample of the respondent and is measured in micromoles per millimole ($\mu\text{mol}/\text{mmol}$). Lead is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 9999.995).**LABDUPB Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_UPB / (LAB_UCRE / 8.84), .3)	LAB_UPB < BD and LAB_UCRE < BD	Lead standardized with urine creatinine	Rounded to 3 decimal places
9999.996	LAB_UPB = NA	Population exclusions	NA
9999.999	Else		NS

25) LABDUSB – Antimony standardized with urine creatinine**Variable name:** LABDUSB**Based on:** LAB_USB, LAB_UCRE**Description:** This variable indicates the concentration of antimony (standardized with creatinine) in the urine sample of the respondent and is measured in nanomoles per millimole (nmol/mmol). Antimony is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 9.999995).**LABDUSB Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_USB / (LAB_UCRE / 8.84), .6)	LAB_USB < BD and LAB_UCRE < BD	Antimony standardized with urine creatinine	Rounded to 6 decimal places
9.999996	LAB_USB = NA	Population exclusions	NA
9.999999	Else		NS

26) LABDUSE – Selenium standardized with urine creatinine**Variable name:** LABDUSE**Based on:** LAB_USE, LAB_UCRE**Description:** This variable indicates the concentration of selenium (standardized with creatinine) in the urine sample of the respondent and is measured in micromoles per millimole ($\mu\text{mol}/\text{mmol}$). Selenium is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.9995).**LABDUSE Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_USE / (LAB_UCRE / 8.84), .4)	LAB_USE < BD and LAB_UCRE < BD	Selenium standardized with urine creatinine	Rounded to 4 decimal places
999.9996	LAB_USE = NA	Population exclusions	NA
999.9999	Else		NS

27) LABDUU – Uranium standardized with urine creatinine**Variable name:** LABDUU**Based on:** LAB_UU, LAB_UCRE**Description:** This variable indicates the concentration of uranium (standardized with creatinine) in the urine sample of the respondent and is measured in nanomoles per millimole (nmol/mmol). Uranium is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 9.9999995).**LABDUU Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_UU / (LAB_UCRE / 8.84), .8)	LAB_UU < BD and LAB_UCRE < BD	Uranium standardized with urine creatinine	Rounded to 8 decimal places
9.99999996	LAB_UU = NA	Population exclusions	NA
9.99999999	Else		NS

28) LABDUV – Vanadium standardized with urine creatinine**Variable name:** LABDUV**Based on:** LAB_UV, LAB_UCRE**Description:** This variable indicates the concentration of vanadium (standardized with creatinine) in the urine sample of the respondent and is measured in nanomoles per millimole (nmol/mmol). Vanadium is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 999.99995).**LABDUV Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_UV / (LAB_UCRE / 8.84), .5)	LAB_UV < BD and LAB_UCRE < BD	Vanadium standardized with urine creatinine	Rounded to 5 decimal places
999.99996	LAB_UV = NA	Population exclusions	NA
999.99999	Else		NS

29) LABDUZN – Zinc standardized with urine creatinine**Variable name:** LABDUZN**Based on:** LAB_UZN, LAB_UCRE**Description:** This variable indicates the concentration of zinc (standardized with creatinine) in the urine sample of the respondent and is measured in micromoles per millimole (µmol/mmol). Zinc is standardized with creatinine in order to correct for urine dilution in spot urine samples.**Note:** Created in the lab post-verify process. BD represents data that is below the limit of detection and is replaced in processing with a code (i.e. 9.99995).**LABDUZN Specifications**

Value	Condition(s)	Description	Notes
Round(LAB_UZN / (LAB_UCRE / 8.84), .5)	LAB_UZN < BD and LAB_UCRE < BD	Zinc standardized with urine creatinine	Rounded to 5 decimal places
9.99996	LAB_UZN = NA	Population exclusions	NA
9.99999	Else		NS