

## **Appendix F**

### **Derived Variables**



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## Description of Derived Variables

Several derived variables were created on the NPHS files. In this section, the method to derive some of the more complex variables is described. It also describes some of the coding structures. The descriptions of the derived variables are in order of how they appear on file. All derived variable names start with the letter "DV". In general, a derived variable was not calculated if any part of the equation was not answered (e.g. don't know, refusal, and not stated). In these cases the code assigned to the derived variable was "not stated".

### DVHHTP94 Household Type

This derived variable was created to indicate the living arrangements within the household. It was based on the ages and reported relationships of each person to all others in the household.

Code	Description	Derivation
1	Couple With Children < 25	Married or Common-Law couple with at least one partner being the parent of the dependent child. No other relationships are allowed.
2	Couple With Children>25 With or Without Other Relatives	Married or Common-Law couple with no dependent child(ren) < 25 years old. Any other relationships are allowed.
3	Single	Unattached individual living alone. Household size=1.
4	Single With Others	Unattached individuals living together. There cannot be a marital/common-law or parental relationship but other relationships such as siblings are allowed.
5	Couple With Dependent Child(ren)<25 And Other Relatives	At least one partner must be the parent of one child <25 years old in the household. Other relationships are allowed.
6	Couple Alone	Married or Common-Law couple alone. No other relationships are permitted. Household size=2.
7	Single-Parent With Dependent Child(ren)< 25	One child must be < 25 years old. No other relationships are permitted.
8	Other Single Parent Households	One child must be <25 years old. Other relationships are permitted.
9	Other Household Types	All other household types.

**DVRSTC94** Recode of main health problem (ICD-9) to 12 codes based on RESTR-Q3 and RESTR-Q4

The following table provides the recode of ICD-9 codes into the 12 categories of DVRSTC94

**1) Diseases of nervous system and senses**

3170 - 3190	Mental retardation
7580	Down's syndrome
2900 - 3160	Psychoses, neurotic disorders
3600 - 3799	Disorders of the eye and adnexa
7430 - 7439	Congenital anomalies of eye
8710 - 8719	Open wound of eyeball
9213 - 9219	Contusion of eyeball and unspecified contusion of eye
9400 - 9409	Burn confined to eye and adnexa
9500 - 9509	Injury to optic nerve and pathways
V410 - V411	Problems with Sight and other eye problems
V425	Cornea replaced by transplant
V430 - V431	Eye globe and lens replaced by other means
V522	Fitting and adjustment of artificial eye
3800 - 3899	Diseases of the ear and mastoid process
7440 - 7443	Congenital anomalies of ear
8720 - 8729	Open wound of ear - affecting hearing
9515	Injury acoustic nerve
V412 - V413	Problems with hearing and other ear problems
3200 - 3599	Diseases of the nervous system and senses organs (except disorders of the eye, adnexa and diseases of ear )
7400 - 7429	Anencephalus, spina bifida and other congenital anomalies
8000 - 8049	Fracture of Skull
8060 - 8069	Fracture of vertebral column with spinal cord lesion
8500 - 8540	Intracranial Injury (excluding those with skull fracture)
9510 - 9514	Injury to oculomotor, trochlear, trigeminal, abducent and facial nerve
9516 - 9579	Injury to accessory, hypoglossal and to unspecified cranial nerve
9520	Spinal cord lesion without evidence of spinal bone injury

**2) Ischaemic Heart Disease**

4100 - 4149	Ischaemic heart disease
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### 3) Other Heart Conditions

4010 - 4059	Hypertensive disease
3900 - 3989	Acute rheumatic fever and chronic heart disease
4150 - 4179	Diseases of pulmonary circulation
4200 - 4299	Other forms of heart disease
7450 - 7459	Bulbus cordis anomalies and anomalies of cardiac septal closure
7460 - 7469	Congenital anomalies of heart
7850 - 7853	Tachycardia, palpitations and other abnormal heart sounds
8610 - 8611	Injury to heart with and without open wound into thorax
V421	Heart replaced by transplant
V422	Transplant heart valve (mechanical)
V433	Heart valve replace (tissue)
V450	Cardiac pacemaker

### 4) Other Circulatory Disorders

4300 - 4389	Cerebrovascular disease
4400 - 4489	Diseases of arteries, arterioles and capillaries
4510 - 4599	Diseases of veins and lymphatics and other diseases of circulatory system
7470 - 7479	Other congenital anomalies of circulatory system
7854 - 7859	Gangrene, shock and enlargement of lymph nodes
9000 - 9049	Injury to blood vessels
V434	Blood vessel replaced by other means

### 5) Diseases of respiratory and digestive system

4900 - 4920	Bronchitis, chronic bronchitis and emphysema
4930 - 4939	Asthma
4770 - 4779	Allergic Rhinitis
4940 - 5199	Bronchiectasis, Pneumoconioses etc.
7480 - 7489	Congenital anomalies of respiratory system
7860 - 7869	Symptoms involving respiratory system and other chest systems
8612 - 8613	Injury to lung with or without open wound into thorax
5200 - 5299	Diseases of oral cavity, salivary glands and jaws
5300 - 5799	Diseases of oesophagus, stomach, duodenum, appendicitis, hernia, colitis, intestines and other digestive system
7500 - 7519	Other congenital anomalies of digestive system
7870 - 7879	Symptoms involving digestive system
8630 - 8641	Injury to gastrointestinal tract and liver



## 6) Arthritis - limbs

VA01 - VA06\* Arthritis/Rheumatism  
VA07 - VA12\* Arthritis/Rheumatism

## 7) Arthritis - back & spine

VA13\* Arthritis/Rheumatism

## 8) Arthritis - other

7110 - 7169 Arthropathy, rheumatoid arthritis, osteoarthritis and unspecified arthropathies  
7250 Polymyalgia rheumatica  
7290 Other disorders of soft tissues  
VA00\* Arthritis/Rheumatism  
VA14 - VA19\* Arthritis/Rheumatism

## 9) Diseases of the Musculoskeletal - limbs

7170 - 7179 Internal derangement of knee  
7265 - 7267 Enthesopathy of hip, knee, ankle, tarsus  
7321 - 7322 Osteochondrosis of hip, pelvis, upper femoral epiphysis  
7324 - 7325 Osteochondrosis of lower extremity with and without foot  
7340 - 7359 Flat foot and acquired deformities of toe  
7363 - 7367 Acquired deformities of hip, varum, recurvatum, knee, foot  
7395 - 7396 Nonallopathic lesions (pelvic and lower extremities)  
7543 - 7547 Congenital deformities (hip, feet)  
7553 Reduction deformity of lower limb  
7556 Other anomaly  
8200 - 8291 Fracture lower limb/hip  
8350 - 8381 Dislocation of hip/knee/ankle/foot  
8430 - 8451 Sprains and strains of hip/thigh/knee/ankle/foot  
8900 - 8977 Open wound of lower limb  
9280 - 9289 Crushing injury of lower limb  
9596 - 9597 Injury, other and unspecified /hip/thigh/knee/leg/ankle/foot  
9912 Frostbite of foot  
V521 Fitting and adjustment of artificial leg  
VB01 - VB06\* Damaged/Removed Discs  
VC01 - VC06\* Weak/Damaged Bones  
VD01 - VD06\* Damaged/Torn Cartilages  
VE01 - VE06\* Sprained/Damaged Ligaments/Tendons  
VF01 - VF06\* Weak/Pulled/Damaged Muscles  
VG01 - VG06\* Absence/Missing

VH01 - VH06*	Fractures/Breaks
VJ01 - VJ06*	Fusions
VK01 - VK06*	Deformed/Crooked
VL01 - VL06*	Displaced/Dislocated/Slipped
VM01 - VM06*	Pain/Soreness
VN01 - VN06*	Stiffness
VP01 - VP06*	Paralysis
VR01 - VR06*	Coordination Problems
VS01 - VS06*	Weakness - Site Unspecified
VT01 - VT06*	Other Specified Impairments
VU01 - VU06*	Other Unspecified Impairments
7260 - 7264	Peripheral enthesopathies (shoulder, elbow, wrist)
7323	Osteochondrosis upper extremities
7360 - 7362	Acquired deformities arm/hand/finger
7397	Nonallopathic lesions (upper extremities)
7552	Congenital Deformity (upper limb)
7555	Congenital deformity (upper limb, including shoulder girdle)
V520	Fitting and adjustment of artificial arm
8100 - 8191	Fracture upper limb
8310 - 8341	Dislocation of shoulder/elbow/finger/wrist
8400 - 8421	Sprains of shoulder/elbow/finger/wrist
8800 - 8877	Open wound of upper limb
9270 - 9279	Crushing of upper limb
9592 - 9595	Injury (shoulder, elbow, wrist, hand, finger)
9911	Frostbite of hand
VB07 - VB12*	Damaged/Removed Discs
VC07 - VC12*	Weak/Damaged Bones
VD07 - VD12*	Damaged/Torn Cartilages
VE07 VE12*	Sprained/Damaged Ligaments/Tendons
VF07 - VF12*	Weak/Pulled/Damaged Muscles
VG07 - VG12*	Absence/Missing
VH07 - VH12*	Fractures/Breaks
VJ07 - VJ12*	Fusions
VK07 - VK12*	Deformed/Crooked
VL07 - VL12*	Displaced/Dislocated/Slipped
VM07 - VM12*	Pain/Soreness
VN07 - VN12*	Stiffness
VP07 - VP12*	Paralysis
VR07 - VR12*	Coordination Problems
VS07 - VS12*	Weakness - site specified
VT07 - VT12*	Other Specified Impairments
VU07 - VU12*	Other Unspecified Impairments

## 10) Diseases of the Musculoskeletal - back

7200 - 7209	Ankylosing spondylitis and other inflammatory spondylopathies
7210 - 7249	Spondylosis, intervertebral disc disorders and other unspecified disorders of back
7268 - 7269	Other peripheral enthesopathies and unspecified enthesopathy
7320	Osteochondrosis of spine
7370 - 7379	Curvature of spine
7384 - 7385	Acquired spondylolisthesis and other deformity of spine
7391 - 7394	Nonallopathic lesions (cervical, thoracic, lombar, sacral)
7542	Certain congenital musculoskeletal deformities of spine
7561	Other congenital musculoskeletal anomalies of spine
8050 - 8059	Fracture of vertebral column without mention of spinal cord lesion
8460 - 8479	Sprains and strains of sacroiliac and unspecified parts of back
9591	Injury of trunk
VB13 - VU13*	Impairment to Back/spine/discs

## 11) Diseases of the Musculoskeletal - other

7100 - 7109	Diffuse diseases of connective tissue
7180 - 7199	Other derangement of joint and unspecified disorder of joint
7270 - 7279	Disorders of synovium, tendon and bursa
7280 - 7289	Disorders of muscle, ligament and fascia
7291 - 7299	Other soft tissues. excl: rheumatism and fibrositis
7300 - 7319	Osteomyelitis, periostitis and osteopathies
7326 - 7339	Osteochondropathies and other disorders of bone/cartilage
7368 - 7369	Other acquired deformities of limbs
7380 - 7383	Acquired deformity of nose, head, neck, chest and rib
7386 - 7389	Acquired deformity of pelvis , unspecified site
7390	Nonallopathic lesions (head region)
7398 - 7399	Lesions rib cage and abdomen
7540 - 7541	Congenital anomalies (skull, face,jaw)
7548	Congenital musculoskeletal deformities
7550 - 7551	Congenital anomalies of limb (polydactyly syndactyly)
7554	Congenital anomalies, unspecified limb
7558 - 7559	Congenital unspecified anomalies of unspecified limb
7560	Anomalies of skull & face bones
7562 - 7569	Other congenital anomalies except spine
8070 - 8091	Fracture rib, sternum, larynx, trachea, trunk
8300 - 8301	Dislocation of jaw
8390 - 8391	Other ill-defined dislocations (cervical and lumbar vertebra)
8480 - 8489	Other and ill-defined sprains and strains
9260 - 9269	Crushing injury of trunk
9598 - 9599	Injury - Site unspecified
V436	Joint replaced by other means

## 12) Other

0010 - 1398	Infectious Diseases (excluding intestinal)
1400 - 2089	Malignant neoplasms
2100 - 2299	Benign neoplasms
2300 - 2399	Carcinoma in situ and neoplasms of unspecified nature
2400 - 2469	Disorders of thyroid gland
2500 - 2509	Diseases of other endocrine glands (diabetes mellitus)
2510 - 2799	Endocrine glands (except diabetes), nutritional and metabolic diseases and immunity disorders
All others	

**\*Musculoskeletal Impairment Supplementary Coding Scheme**

Example VA01 - Arthritis/Rheumatism of Toes

Impairment	Site
VA__ - Arthritis/Rheumatism	__00 - Not Stated
VB__ - Damaged/Removed Discs	__01 - Toes
VC__ - Weak/Damaged/Degenerating Bones	__02 - Feet
VD__ - Damaged/Torn Cartilages	__03 - Ankles
VE__ - Sprained/Damaged/Torn Ligaments	__04 - Knees/Kneecaps
VF__ - Weak/Pulled/Damaged Muscles	__05 - Legs
VG__ - Absence/Missing	__06 - Hips
VH__ - Fractures/Breaks (only with bones)	__07 - Fingers
VJ__ - Fusions	__08 - Hands
VK__ - Deformed/Crooked	__09 - Wrists
VL__ - Displaced/Dislocated/Slipped	__10 - Elbows
VM__ - Pain/Soreness	__11 - Arms
VN__ - Stiffness	__12 - Shoulders
VP__ - Paralysis	__13 - Back/Spine/Discs
VR__ - Coordination Problems	__14 - Trunk/Chest/Ribs/Collarbone
VS__ - Weakness - site specified	__15 - Neck
VT__ - Other Specified Impairments	__16 - Head/Face
VU__ - Other Unspecified Impairments	__17 - One Side of the Body
	__18 - Below the Waist
	__19 - Entire Body

**DVINC594** Income adequacy in 5 discrete categories.

This variable is based on household income and the size of the household.

DVINC594 =	DESCRIPTION	INCOME	HHSIZE
1	Lowest income	Less than \$10,000	1 to 4 persons
		Less than \$15,000	5 or more persons
2	Lower middle income	\$10,000 to \$14,999	1 or 2 persons
		\$10,000 to \$19,999	3 or 4 persons
		\$15,000 to \$29,999	5 or more persons
3	Middle income	\$15,000 to \$29,999	1 or 2 persons
		\$20,000 to \$39,999	3 or 4 persons
		\$30,000 to \$59,999	5 or more persons
4	Upper middle income	\$30,000 to \$59,999	1 or 2 persons
		\$40,000 to \$79,999	3 or 4 persons
		\$60,000 to \$79,999	5 or more persons
5	Highest Income	\$60,000 or more	1 or 2 persons
		\$80,000 or more	3 persons or more
9	Unknown	Not stated	Not applicable

**DVBMI94** Body Mass Index (BMI)  
Based on weight and height

This variable is calculated for persons 20 to 64 years old, excluding pregnant women.

$$\text{BMI} = \text{WEIGHT (KG)} / \text{SQUARED HEIGHT (METERS)}$$

**DVBMIC94** Derived standard weight  
Based on Body Mass Index

DVBMIC =	DESCRIPTION	DVBMI94
1	Insufficient weight	Less than 20
2	Acceptable weight	20 to 24
3	Some excess weight	25 to 27
4	Overweight	28 and over
6	Not applicable	96
9	Not stated	99

**DVSMKT94 Type of smoker**

Based on SMOK-Q2, Q4a, Q5

DVSMKT94 =	DESCRIPTION	CONDITION
1	Daily smoker	SMOK-Q2 = 1
2	Occasional smoker but former daily smoker	SMOK-Q2=2 AND SMOK-Q5=1
3	Always an occasional smoker	SMOK-Q2=2 AND SMOK-Q5=2
4	Former daily smoker	SMOK-Q2=3 AND SMOK-Q4A=1 AND SMOK-Q5=1
5	Former occasional smoker	SMOK-Q2=3 AND SMOK-Q4A=1 AND SMOK-Q5=2
6	Never smoked	SMOK-Q2=3 AND SMOK-Q4A=2
9	Not stated	Not stated

**DVSMKY94 Number of years smoked**

For daily smokers or former daily smokers only.

For daily smokers the number of years smoked was calculated by subtracting the value in SMOK-Q3 from current age.

For former smokers the value in SMOK-Q6 is subtracted from the value in SMOK-Q8.



**DVALT94** Type of drinker  
Based on ALCO-Q2 and ALCO-Q5B

DVALT94 =	DESCRIPTION	CONDITION
1	Regular drinker: a drink at least once a month	ALCO-Q2<7
2	Occasional drinker: less than one drink a month	ALCO-Q2=7
3	Don't drink now: did not have a drink in the last 12 months	ALCO-Q5B=1
4	Abstinent (never drank)	ALCO-Q5B=2
9	Not stated	Not stated

**DVMOFQ94** Monthly frequency of physical activities lasting over 15 minutes  
Based on PHYS-Q2

This variable measures the number of times respondents took part in a physical activity in the past month which lasted more than 15 minutes. It should be noted that the questions refer to a three-month period and this variable refers to a one-month period (The total frequency was divided by 3). A value of zero represents no physical activity lasting over 15 minutes.

**DVPAFQ94** Frequency of physical activities categories  
Based on DVMOFQ94

This variable classifies respondents based on their monthly frequency of physical activities lasting more than 15 minutes.

DVPAF94 =	DESCRIPTION	DVMOFQ94=
1	Regular	12 or more times per month
2	Occasional	4 to 11 times per month
3	Infrequent	0 to 3 times per month
9	Not stated	999

**DVDAFQ94** Participation in daily physical activities lasting over 15 minutes  
Based on DVMOFQ94

DVPAFQ94 =	DESCRIPTION	DVMOFQ94=
1	Daily	30 or more times per month
2	Not Daily	Less than 30 times per month
9	Not stated	999

**DVEE94** Energy Expenditure

In order to derive a physical activity index, the energy expenditure (EE) of participants in their leisure activities should be estimated. EE is calculated using the frequency and time per session of the physical activity as well as its MET value. The MET is a value of metabolic energy cost expressed as a multiple of the resting metabolic rate. Thus, an activity of 4 METS requires four times the amount of energy required when the body is at rest.

Energy Expenditure values are calculated as follows:

$$EE \text{ (kcal/kg/day)} = \text{Sum of } ((N_i * D_i * \text{METS}) / 365)$$

$N_i$  = the number of times respondents engaged in an activity over a 12 month period

$D_i$  = the average duration in hour of the activity (AVEDUR)

METS = the energy cost of the activity expressed as kilocalories expended per kilogram of body weight per hour of activity (kcal/kg per hour)/365 (to convert yearly data into daily data)

Met values tend to be expressed in three intensity levels (i.e. low, medium, high intensity). NPHS questions did not asked the respondent to specify the intensity level of their activities, therefore the MET values adopted correspond to the low intensity value of each activity. This approach is adopted from the Canadian Fitness and Lifestyle Research Institute because individuals tend to overestimate the intensity, frequency and duration of their activities. The MET values are:

Activity	MET Value
a- Walking for Exercise	3
b - Gardening, yard work	3
c - Swimming	3
d - Bicycling	4
e - Popular or social dance	3

f - Exercises at home	3
g - Ice hockey	6
h - Ice skating	4
i - Downhill Skiing	4
j - Running or Jogging	9.5
k - Golf	4
l - Exercise class, Aerobics	4
m - Cross-Country skiing	5
n - Bowling	2
o - Softball, Baseball	3
p - Tennis	4
q - Weight-Training	3
r - Fishing	3
s - Volleyball	5
t - Yoga or tai-chi	2
Other Activities ( average of above)	4.2

Note: Since it is difficult to recode the category "other activities", the MET value used was the average of the listed activities. Some activities have MET values lower than the average, However, this approach is consistent with other studies, such as the Campbell's Survey and the Ontario Health Survey(OHS).

DVEE94 was calculated from the responses to questions PHYS-Q1 and PHYS-Q2 as follows:

Sum of non-missing  $((PA\_Q2_i * 4) * AVEDUR_i * MET_i) / 365$   
for activities A to X (exclude V since V means none)

where  $PA\_Q2_i * 4$  = number of times for 12 months for each activity A to X  
 $AVEDUR_i$  = average duration for each activity in hour  
MET = corresponding MET value in kcal/kg/hr

AVEDUR calculation:

Time spent on each occasion  
(PHYS-Q3)

Average duration assigned (AVEDUR)

1 to 15 minutes	13 min or .2167 hour
16 to 30 minutes	23 min or .3833 hour
31 to 60 minutes	45 min or .75 hour
More than an hour	60 min or 1 hour

**DVPAID94** Physical Activity Index

Energy expenditure values used to categorize individuals were the same as those used in the OHS and in the Campbell's Survey Well-Being.

Code Description

- 1 Active: Those who averaged 3.0+ kcal/kg/day of energy expenditure. This is approximately the amount of exercise that is required for cardiovascular health benefit.
- 2 Moderate Those who averaged 1.5 - 2.9 kcal/kg/day. They might experience some health benefits but little cardiovascular benefit.
- 3 Inactive Those with an energy expenditure below 1.5 kcal/kg/day
- 9 Not stated

**DVINJ194** Type of injury by body site

This variable was derived by creating a matrix between all possible answers in question INJ-Q3 (type of injury) with all possible answers in question INJ-Q4 (body part injured). Each combination in the matrix was given a unique code, except for impossible combinations (e.g., concussion of the shoulder) which were assigned the code 996.

Multiple injuries of the same type (e.g., multiple fractures) are classified to a single type of injury (e.g., Fractured Bones). Similarly, only one body site would be coded if there were injuries to many areas within that site. For example, multiple fractures to both legs and feet would be classifiable to the site Legs or Feet. Thus, a case of multiple fractures and burns to both legs and feet would be included in the code '27'. A case of multiple fractures and burns to both legs and feet would be included in the code '17'.

The category 'Other' type of injury includes crushing, frostbite, foreign body, injuries not falling into one of the other categories, and unspecified types of injuries.

## DVINJ194 Coding Structure

	Multiple Sites	Eyes	Head (excl. eyes)	Neck	Shoulder	Arms or Hands	Hip	Legs or Feet	Back or Spine	Trunk	Systemic Effect
Multiple Injuries	10	11	12	13	14	15	16	17	18	19	999
Fractures	20	999	22	23	24	25	26	27	28	29	999
Burn or scald	30	31	32	32	35	35	39	37	39	39	999
Dislocation	40	999	42	43	44	45	46	47	48	49	999
Sprain or strain	50	999	52	53	54	55	56	57	58	59	999
Cut, open wound, amputation	60	61	62	63	64	65	66	67	68	69	999
Bruise, contusion, abrasion	70	71	72	73	74	75	76	77	78	79	999
Concussion	999	999	82	999	999	999	999	999	999	999	999
Poisoning by substance or liquid	999	999	999	999	999	999	999	999	999	999	90
Internal Injury	100	102	102	102	104	105	109	107	109	109	999
Other	110	111	112	112	114	115	116	117	119	119	999
996	996	996	996	996	996	996	996	996	996	996	996

Note: Codes 996 = Not applicable and 999 = Not Stated.

### **DVINJ294** External cause of injury by place of occurrence

This variable was derived by creating a matrix between all possible answers in question INJ-Q6 (cause of injury) with all possible answers in question INJ-Q5 (place of occurrence). This first two digit of this three digit variable indicates the external cause of the injury: the third digit indicates the place of occurrence.

A 'motor vehicle accident' is a transport accident involving most motorized vehicles, and can refer to the driver, a passenger, a motorcyclist, a pedestrian, a rider of an animal or a rider in an animal drawn vehicle. It excludes train, watercraft or airplane accidents unless a motor vehicle was involved.

The 'Other' cause of injury category can include such accidents as those caused by electrical current, firearms, pedal cycles, ski-lifts, and water transport accidents not involving drowning or non-submersion.

### **Codes for question "INJ-Q6"**

- 1 Motor vehicle accident
- 2 Accidental falls
- 3 Fire, flames, and resulting fumes
- 4 Accidentally struck by persons or objects
- 5 Physical Assault
- 6 Suicide Attempt
- 7 Accidental Injury caused by Explosion
- 8 Accidental injury caused by natural and environmental factors
- 9 Accidental drowning or submersion
- 10 Accidental suffocation
- 11 Hot (or corrosive) liquids, foods, substances
- 12 Accident caused by machinery
- 13 Accident caused by cutting and piercing instruments or objects
- 14 Accidental poisonings
- 15 Other
- 96 Not Applicable
- 99 Not Stated

### **New codes for question "INJ-Q5"**

The following numeric codes were taken from the *International Classification of Diseases* (9th ed.), Volume 1, page 569. It should be noted that these codes were designed to be used as 5th digits, only with the codes E850 - E869 and E880 - E928. The code "9" *unspecified* was not applicable to any of the choices in question "INJ-Q5".

- 0 Home and surrounding area
- 1 Farm
- 4 Place for recreation or sport
- 5 Street or highway
- 6 Building used by general public
- 7 Residential institution
- 2 Mine
- 3 Industrial place
- 8 Other

Note: The ICD-9 related codes can be provided on request.

**DVCSI194** General chronic stress index

Sum of all true responses from questions answered by all respondents.  
Based on CSTRESS-Q1 to Q4 and CSTRESS-Q12 to Q18

MIN=0, MAX=11

This general stress index is composed of items that are relevant to all respondents. The stressors include activity overload, financial difficulties and problems with relationships in day-to-day encounters. "Don't know" answers were treated as "no" answers.

**DVCSI294** Specific chronic stress index

Sum of all true questions from CSTRESS-Q1 to Q8 and CSTRESS-Q10 to Q18

MIN = 0

MAX with children: married: 15, single: 13, other: 12

MAX no children: married: 13, single: 11, other: 10

This index measures the total number of stressors respondents were exposed to. The range of the final score varies as a function of the respondents' personal situation. For example, for persons married or living with a partner, items about relationship with partner are included. For persons without a partner, the index contains an item on the difficulty of finding someone compatible. For persons who have children, items about children become part of the index. "Don't know" answers were treated as "no" answers.

**DVCSI394** Adjusted specific chronic stress index

To adjust DVCSI294 according to the number of questions.

$DVCSI394 = (DVCSI294 * 16) / \# \text{ of questions answered yes, no or don't know in}$

$DVCSI294 \text{ e.g. single with children: } (DVCSI294 * 16) \div 14$

In this third index, the range of scores of the second index, DVCSI294 is adjusted as if all the items were relevant to each respondent.

**Chronic Stress Dimension Scores**

A number of sub-scores were derived to reflect the number of stressors respondents were exposed to in certain domains of their lives. They are based on a subset of items included in the chronic stress section of the questionnaire and their name reflects the dimension which is measured. "Don't know" answers were treated as "no" answers.

**DVCSI494** Personal stress

Based on CSTRESS-Q1, Q2, Q3, Q12, Q18

MIN = 0, MAX = 5

- DVCSI594** Financial problems  
Based on CSTRESS-Q4  
MIN = 0, MAX = 1
- DVCSI694** Relationship problems (with mate)  
Based on CSTRESS-Q5, Q6, Q7  
MIN = 0, MAX = 3
- DVCSI794** No mate  
Based on CSTRESS-Q8  
MIN = 0, MAX = 1
- DVCSI894** Child Problems (with children)  
Based on CSTRESS-Q10, Q11  
MIN = 0, MAX = 2
- DVCSI994** Environmental problems  
Based on CSTRESS-Q13, Q14, Q15  
MIN = 0, MAX = 3
- DVCSI094** Family Health  
Based on CSTRESS-Q16, Q17  
MIN = 0, MAX = 2

### **Recent life events**

The three indices which measure recent life events are based on the number of negative events which the respondent or someone close to the respondent experienced in the last 12 months. Higher scores indicate numerous events. The analyses of McDowell, Boulet and Kristjansson guided the selection of the items which were part of a pool used in studies conducted by Blair Wheaton.

- DVRLI194** Recent life events score - items answered by everyone  
Sum of all true responses from questions answered by all respondents  
RECENT-Q1 to Q7, Q9  
MIN = 0 , MAX = 8

This index is composed of items that are relevant to all respondents. The events include physical abuse, unwanted pregnancy, abortion or miscarriage, major financial difficulties, and serious problems at work or in school.



**DVRLI294** Recent Life events score - sum of all valid items  
Sum of all true responses RECENT-Q1 to Q10

Married with kids:	Q1 to Q10, MIN=0, MAX=10
Married without kids:	Q1 to Q9, MIN=0, MAX=9
Not married with kids:	Q1 to Q7, Q9, Q10, MIN=0, MAX=9
Not married without kids:	Q1 to Q7, Q9, MIN=0, MAX=8

This index takes into account the roles that individuals are in. For persons married or living with a partner, the index includes an item about relationship with partner. For persons who have children, the index includes an item about children moving back home.

**DVRLI394** Adjusted recent life events index  
 $DVRLI394 = (DVRLI294 * 10) / \# \text{ of questions answered yes or no e.g. not married without children} = (DVRLI294 \times 10) \div 8.$   
MIN=0, MAX=10

The range of scores of the second index, DVRLI294 is adjusted as if the ten items were relevant to all the respondents.

**DVTRI94** Childhood and Adult Stressors

Sum of TRAUM-Q1 to Q7  
MIN=0, MAX= 7

This index measures the number of traumatic events respondents have been exposed to during their childhood, adolescence or adulthood. Events included are parental divorce, a lengthy hospital stay, prolonged parental unemployment, frequent parental alcohol or drug use are. A higher score indicates more stressors. The analyses of McDowell, Boulet and Kristjansson guided the selection of the final set of items which were part of a pool used in studies conducted by Blair Wheaton.

**DVWSI194** Work stress index  
Sum of all items in WSTRESS-Q1  
MIN = 0, MAX = 48

Respondents 15 and over who were currently employed were asked to evaluate their work situation. The 12-item index, based on a larger pool of items from Karasek, reflects respondents' perceptions about various dimensions of their work including job security, social support, monotony, physical effort required and extent of participation in decision-making. Higher scores indicate greater work stress.

Respondents' answers are based on a 5 point scale. Score was reversed for question items D, E, H, and J.

Strongly agree = 0

Agree = 1

Neither agree or disagree = 2

Disagree = 3

Strongly disagree = 4

### **Work stress dimension scores**

The work stress items were subdivided into five dimensions. As it is the case for the overall index, answers to the items indicate respondents' perceptions about various dimensions of their work. The name of each sub-scale reflects the dimension which is measured.

**DVWSI294** Decision Latitude - Skill discretion  
Based on items WSTRESS-Q1A, B, D  
MIN = 0, MAX = 12

**DVWSI394** Decision Latitude - Decision authority  
Based on items WSTRESS-Q1C, I  
MIN = 0, MAX = 8

**DVWSI494** Psychological demands  
Based on items WSTRESS-Q1E,F  
MIN = 0, MAX = 8

**DVWSI594** Job insecurity  
Based on item WSTRESS-Q1G  
MIN = 0, MAX = 4

**DVWSI694** Physical exertion  
Based on item WSTRESS-Q1H  
MIN = 0, MAX = 4

**DVWSI794** Social support  
Based on items WSTRESS-Q1J, K, L  
MIN = 0, MAX = 12

**DVESTI94** Self-esteem index  
Sum of all items of ESTEEM-Q1  
MIN = 0, MAX = 24

The self-esteem index reflects the amount of positive feelings an individual holds about his/herself. Scores on the index are based on a subset of items from the self-esteem Rosenberg scale (1969). The six items factored into one dimension in the factor analysis done by Pearlin and Schooler (1978). Higher scores indicate greater self-esteem.

Respondents' answers are based on a 5 point scale:

- 0 = Strongly disagree
- 1 = Disagree
- 2 = Neither agree nor disagree
- 3 = Agree
- 4 = Strongly agree

(Scores was reversed for item F.)

**DVMASI94** Mastery index

Sum of all items of MAST-Q1  
MIN = 0, MAX = 28

The index which measures sense of mastery is based on the work of Pearlin and Schooler (1978). It measures the extent to which individuals believe that their life-chances are under their control. Higher scores indicate superior mastery.

Respondents' answers are based on a 5 point scale:

- 0 = Strongly agree
- 1 = Agree
- 2 = Neither agree or disagree
- 3 = Disagree
- 4 = Strongly disagree

(Scores were reversed for items F and G.)

**DVSCI94** Sense of Coherence scale

Sum of SCOH-Q1 to SCOH-Q13

The 13-item version of the sense of coherence scale developed by Antonovsky was used in the NPHS. It denotes the extent to which individuals perceive events as comprehensible, manageable and meaningful. The concept of manageability is addressed in questions Q3, Q4, Q8, and Q10. Items Q1, Q9, Q11, and Q13 measure meaningfulness and items Q2, Q5, Q6, Q7, Q12 are related to the comprehensibility dimension. Higher scores indicate a stronger sense of coherence.

Score was reversed for questions SCOHQ1, Q2, Q3, Q8, Q13

**DVHST94** Health Utility Index:

This is a composite index based on all the questions in the Health Status Section

The Health Utility Index (HIUI) is a generic health status index that is able to synthesize both quantitative and qualitative aspects of health. The system developed at McMaster University's Centre for Health Economics and Policy Analysis, the Comprehensive Health Status Measurement System (CHSMS), provides a description of an individual's overall functional health, based on eight attributes: vision, hearing, speech, mobility (ability to get around), dexterity (use of hands and fingers), cognition (memory and thinking), emotion (feelings), and pain and discomfort.

In addition to describing functional health status levels, the CHSMS is the basis for a provisional Health Utility Index (HI). The HI is a single numerical value for any possible combination of levels of these eight self-reported health attributes. The HI maps any one of the vectors of eight health attribute levels into a summary health value between 0 and 1. For instance, an individual who is near-sighted, yet fully healthy on the other seven attributes, receives a score of 0.95 or 95% of full health.

The HUI value also embodies the views of society concerning health status. These views are termed societal preferences, since preferences about various health states are elicited from a representative sample of individuals.

The specific HI calculated here is provisional. The societal preferences were derived from the small-scale Childhood Cancer Study using a precursor of the CHSMS and were adapted for use with the Ontario Health Survey.<sup>14</sup> Some adjustments were also made to the health attributes reported in the Ontario Health Survey. Consequently, the HI results are preliminary and approximate. This version of the CHSMS, however, was tested for consistency and was deemed to provide a realistic appraisal of individual health status. (For a detailed explanation of the calculation of the HI, refer to Berthelot J, Roberge R, Wolfson MC. The calculation of health-adjusted life expectancy for a Canadian province using a multi-attribute utility function: a first attempt. Montpellier, France: Colloque *Inserm/John Libbey Eurotext Ltd*, 1993:161-72.)

## **Drug Coding**

### **DRGC301G to DRGC312G DRGC501G to DRGC512G**

The drug classification is based on the Canadian Anatomical Therapeutic Chemical (ATC) Classification System. The codes used on the microdata file are not the actual ATC codes, but they are the first letter of the drug code which is provided on the Public Use Micro File. The full set of codes are identified on the master file maintained at Statistics Canada. These are available by special request.

#### **A. Alimentary tract and metabolism**

- Anti-Obesity Preparations, Excluding Diet Products
- Mineral Supplements
- Enzyme Preparations
- Antipropulsives
- Antiflatulents
- Digestives, Including Enzymes
- Antiemetics and Antinauseants
- Propulsives
- Cathartics/Laxatives
- Laxatives (Bulk Forming)
- Laxatives (Contact)
- Laxatives (Softeners, Emollients)
- Laxatives (Osmotically Acting)
- Miscellaneous GI
- Cholelitholytic and Choloretic
- Anti-Peptic Ulcer (H2-Receptor Antagonists)
- Anti-Peptic Ulcer (Others)
- Antacids
- Drugs Used in Diabetes
- Drugs Used in Diabetes (Insulins)
- Drugs Used in Diabetes (Oral Hypoglycemics)
- Antihypoglycemics
- Other Mineral Supplements
- Nutritional Supplements
- Antiobesity Preparations

#### **B. Blood and blood forming organs**

- Blood Formation and Coagulation
- Anticoagulants
- Antiplatelet
- Antianemic Preparations (Iron)

Electrolyte Solutions (Alkalinizing)  
Irrigating Solutions

### **C. Cardiovascular system**

Peripheral Vasodilators  
Haemorrheologic  
Antihyperlipedemic  
Cardiac Drugs  
Cardiac (Glycosides and Others)  
Cardiac (Antiarrhythmics)  
Cardiac (Calcium Channel Blockers)  
Antihypertensive  
Antihypertensive (Beta Blocking)  
Antihypertensive (Converting Enzyme Inhibitors - ACE)  
Antihypertensive (Adrenergic Neuron Blockers)  
Antihypertensive (A-Blockers)  
Antihypertensive (Others)  
Vasodilators (Nitrates/Nitrites)  
Vasodilators (Others)  
Diuretics  
Diuretics (Thiazides and Related)  
Diuretics (Loop)  
Diuretics (Potassium-Sparing)

### **D. Dermatologicals**

Skin/Mucous Membrane Preparation  
Antibiotics  
Antivirals  
Antifungals  
Other Anti-Infectives  
Anesthetics for Topical Use/Antipruritics  
Anti-Acne Preparation  
Anipsoriatics and Protectants  
Keratolytics  
Keratoplastics  
Astringents  
Depigmenting/Pigmenting  
Anti-Inflammatory (Corticosteroids)  
Sunscreens  
Miscellaneous Dermatological Preparations

**G. Genito-urinary system and sex hormones**

Urinary Anti-infectives  
Androgens  
Hormonal Contraceptives  
Progestogens  
Estrogens  
Gonadotrophins  
Genitourinary Antispasmodics

**H. Systemic hormonal preparations, excluding sex hormones**

Hormones  
Corticosteroids  
Pituitary and Hypothalamic Hormones  
Thyroid/Antithyroid  
Thyroid Hormones  
Antithyroid Preparations

**J. General anti-infectives for systemic use**

Antimycotics for Systemic Use  
Antimycobacterials  
Antivirals for Systemic Use  
Aminoglycoside Antibacterials  
Cephalosporins and Related Substances  
Macrolides  
Quinolone Antibacterials  
Sulfonamides  
Tetracyclines  
Penicillins  
Penicillins (Natural)  
Penicillins (Penicillinase-Resistant)  
Penicillins (Broad-spectrum)  
Miscellaneous Antibacterials

**L. Antineoplastic agents**

Antineoplastic  
Alkylating  
Anti-Metabolites  
Miscellaneous Antineoplastics  
Immunosuppressive Agents

## **M. Musculo-skeletal system**

- Skeletal Muscle Relaxants
- Skeletal Muscle Relaxants (Centrally Acting)
- Skeletal Muscle Relaxants (Combination)
- Analgesics/Antipyretics
- Antiinflammatory and Antirheumatic (NSAID)
- Preparations Increasing Uric Acid
- Gold Preparations
- Topical Products for Joint and Muscular Pain

## **N. Nervous system**

- Parasyathomimetic
- Anticholinergic Antimuscarinics/Antispasmodics
- Ergot Alkaloids
- Antiepileptics
- Antimigraine
- Anti-Parkinson Drugs
- Alcohol
- Analgesics/Antipyretics (Salicylic Acid/Derivatives)
- Analgesics/Antipyretics (Opioids)
- Analgesics/Antipyretics (Opioids-Combinations)
- Analgesics/Antipyretics (Opioids-Codeine)
- Analgesics/Antipyretics (Miscellaneous)
- Analgesics/Antipyretics (Acetaminophen)
- Antidepressants
- Antidepressants (Mao Inhibitors)
- Antidepressants (Tricyclics)
- Antidepressants (Serotonin Inhibitors)
- Antidepressants (Others)
- Anxiolytics, Sedatives, Hypnotics
- Anxiolytics (BZD-Short Half-Life)
- Anxiolytics (BZD-Medium Half-Life)
- Anxiolytics (BZD-Long Half-Life)
- Anxiolytics (Other)
- Hypnotics and Sedatives (Barbiturates)
- Hypnotics and Sedatives (Other)
- Antipsychotics (Phenothiazines)
- Antipsychotics (Others)
- Psychostimulants
- Antipsychotic (Lithium)



**P. Antiparasitic products**

Antiprotozoals (Antimalarials)

**Q. Cold and cough common drugs**

Cold Medications

**R Respiratory system**

Antihistamines (General)

Antihistamines (For Systemic Use)

Antihistamines (For Systemic Use - Other)

Respiratory Stimulants

Anti-Allergic and Other Anti-Asthmatics (Inhaled)

Anti-Asthmatics (Theophyllines)

Anti-Asthmatics (B-Agonists)

Anti-Asthmatics (Others)

**S. Sensory organs**

Anti-Infectives

Anti-Inflammatory

Carbonic Anhydrase Inhibitors

Antiglaucoma Preparations and Miotics

Mydriatics

Mouth Washes and Gargles

Nasal and Systemic Decongestants (Nasal)

Ophthalmological and Otological Preparations

Anti-Infective (Antivirals)

Anti-Infective (Sulfonamides)

Anti-Infective (Miscellaneous)

## **V. Various**

- Anti-Smoking Agents
- Heavy Metal Antagonists
- Local Anesthetics (Parenteral)
- Vaccines
- Vitamin A Derivatives
- Vitamin B Complex
- Vitamin C
- Vitamin D
- Vitamin E
- Vitamin K
- Miscellaneous Vitamin Preparations
- Multivitamins
- Placebo
- Unclassified Therapeutics

## **X. Natural medicines**

- Natural Medicines
- Medicinal Herbs
- Natural Weight Reduction
- Tisanes
- Chinese Medicine
- Natural Immune/Anti-Allergy
- Micro-Algae
- Proteins
- Amino-Acids
- Nucleoside
- Amino Sugar
- Fatty Acids
- Natural Oils, Spices
- Natural Enzymes
- Natural Vitamins
- Natural Antioxidants
- Natural Minerals
- Nutritional Products
- Alternative Therapies
- Aroma Therapy
- Homeopathic
- Natural Medicines (Miscellaneous)

## **Z. Missing**

- Missing Drugs and Missing Products

**DVMHDS94** Distress score

Sum of questions MHLTH-Q1A to MHLTH-Q1F

The items and scoring used to derive the distress score are based on the work of Kessler and Mroczek (from Michigan University). The index is based on a subset of items from the Composite International Diagnostic Interview (CIDI). The CIDI is a structure diagnostic instrument that was designed to produce diagnoses according to the definitions and criteria of both DSM-III-R and the Diagnostic Criteria for Research of the ICD-10. Higher scores indicate more distress.

**DVMHCH94** Chronicity of distress and impairment associated with distress

Paired with the above scale are the questions MHLTH-Q1G to MHLTH-Q1I that assess chronicity of distress and impairment associated with distress.

DVMHCH94 =	DESCRIPTION	CONDITION
1	A lot more than usual	MHLTH-Q1H=1
2	Somewhat more than usual	MHLTH-Q1H=2
3	A little more than usual	MHLTH-Q1H=3
4	About the same as usual	MHLTH-Q1G=3
5	A little less than usual	MHLTH-Q1I=3
6	Somewhat less than usual	MHLTH-Q1I=2
7	A lot less than usual	MHLTH-Q1I=1
8	Never have had any	MHLTH-Q1G=4
96	Not Applicable	MHLTH-Q1G=6
99	Not stated	Not stated

**DVSFS94** Depression Scale

Based on MHLTH-Q2 to MHLTH-Q28

The items used to measure depression are based on the work of Kessler and Mroczek (from University of Michigan). They selected a subset of items from the Composite International Diagnostic Interview (CIDI) which measure major depressive episode (MDE). The CIDI is a structure diagnostic instrument that was designed to produce diagnoses according to the definitions and criteria of both

DSM-III-R and the Diagnostic Criteria for Research of the ICD-10. The short-form of MDE which was used in the NPHS was developed to operationalize Criteria A through C of the DSM-III-R diagnosis of MDE. The diagnostic hierarchy rules defined in Criterion D ("not superimposed on schizophrenia, schizophreniform disorder, delusional disorder, or psychotic disorder NOS") were ignored.

**DVPP94** Probability of caseness to respondents

The probability of caseness to respondents(DVPP94) was assigned based on their short-form scores. A probability of caseness of 0 was assigned to respondents who denied the stem questions. DVPP94 was assigned as follows:

DVSFS94=	0	1	2	3	4	>4
DVPP94=	0	.05	.25	.50	.80	.90

**DVSSI194** Perceived social support index

Sum of all true responses from questions SOCSUP-Q3 to SOCSUP-Q6

The perceived social support index is composed of four items which reflect whether respondents feel that they have someone they can confide in, someone they can count on, someone who can give them advice and someone who makes them feel loved. A higher score indicates greater perceived social support.

**DVSSI294** Social involvement dimension

Sum of valid answers of SOCSUP-Q2 and SOCSUP-Q2A

The social involvement dimension is measured by two items which reflect the frequency of participation in associations or voluntary organizations and the frequency of attendance at religious services in the last year. Higher score indicates greater social involvement.

**DVSSI394** Average frequency of contact index  
Based on SOCSUP-Q7A to SOCSUP-Q7H

The average frequency of contact index measures the average number of contacts in the past 12 months with family members and friends who are not part of the household and with neighbours. A higher number indicates more contacts.

$DVSSI394 = CONTACT / NETSIZE$

CONTACT is an approximate value indicating the number of contacts for all categories (SOCSUP-Q7A to SOCSUP-Q7H).

NETSIZE is a combined value indicating the existence of possible persons to be contacted (sum of flags indicating "yes" to parents, "yes" to grandparents, etc.).

**DVLVNG94** Living Arrangement of Selected Respondent

Code	Description	Derivation
1	Unattached Individual Living Alone	Selected respondent lives alone. Household size=1.
2	Unattached Individual Living With Others	Selected respondent lives with others. S/he cannot have a marital/common-law or parental relationship but other relationships such as siblings are allowed.
3	Spouse/Partner Living With Spouse/Partner Only	Selected respondent lives with Spouse/Partner Only. Household size=2.
4	Parent Living With Spouse/Partner And Children	Selected respondent lives with spouse/partner and child(ren).
5	Single Parent Living With Children Only	Selected respondent lives with child(ren). No other relationships are permitted.
6	Child Living With Single Parent	Selected respondent is a child living with a Single Parent. Household size=2.
7	Child Living With Single Parent and Siblings.	Selected respondent is a child living with a Single Parent and siblings.
8	Child Living With Two Parents	Selected respondent is a child living with two parents. Household size=3.
9	Child Living With Two Parents and Siblings	Selected respondent is a child living with two parents and siblings.
10	Other	Selected respondent lives in a household composition not classified above.