

Frequency Analysis - OSHA Severe Reports

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1 Introduction

This Document shows the frequency of the followings:

- State
- Contractor (Industry)
- Hospitalized
- Amputation
- Event
- Source (Main Source)
- Main Source and Secondary source
- Part of Body
- Nature
- Part of Body and nature

The database was obtained from *OSHA Severe Reports Database*. The Contractor industry cases were obtained from *North American Industry Classification System*. Event, Source, Part of Body, Nature were cross referenced from the *The Occupational Injury and Illness Classification System (OIICS) Manual*.

The database was downloaded on 2/23/2020. The database has number of severe injury across different industries.

2 Compare Construction with different Industries

This analysis investigates the proportion of construction, compared with other industries.

- The total number of injury reports = 48036 reports (from all industries)
- Number of reports with missing industries = 2 reports
- The relative proportion is for cases after discarding the two missing cases - $n = 48034$

```
# read all cases
all <- read_excel("datasets/rmarkdown files/severeinjury_ORIGINAL__modified_E.xlsx")

# read the naics
naics <- read_excel("datasets/rmarkdown files/naics/NAICS_L2.xlsx", sheet = 1, col_types = c("numeric", "guess"))

# left join
all_v2 <- left_join(all, naics)
```

```

# number of cases (blank)
sum_all_v2 <- all_v2 %>%
  filter(!is.na(NAICS_L2_v1)) %>%
  count(NAICS_L2_v1, sort = T)

# Proportion
sum_all_v2 %>%
  rename(Industry = NAICS_L2_v1) %>%
  mutate(Percentage = n*100 / sum(n))

```

Industry	n	Percentage
Manufacturing	15949	33.2035641
Construction	8563	17.8269559
Transportation and Warehousing	4133	8.6043219
Retail Trade	3472	7.2282133
Administrative and Support and Waste Management and Remediation Services	2645	5.5065162
Wholesale Trade	2636	5.4877795
Health Care and Social Assistance	2261	4.7070825
Mining, Quarrying, and Oil and Gas Extraction	1585	3.2997460
Accommodation and Food Services	974	2.0277304
Agriculture, Forestry, Fishing and Hunting	876	1.8237082
Other Services (except Public Administration)	862	1.7945622
Professional, Scientific, and Technical Services	779	1.6217679
Arts, Entertainment, and Recreation	661	1.3761086
Utilities	603	1.2553608
Public Administration	602	1.2532789
Information	501	1.0430112
Real Estate and Rental and Leasing	492	1.0242745
Educational Services	233	0.4850731
Finance and Insurance	169	0.3518341
Management of Companies and Enterprises	19	0.0395553
Unclassified industry	19	0.0395553

Intresteingly, construction is second in terms of severe injuries followed by manufacturing.

- Major finding: although fatalities statistics shows a decrease of improvement in the number of fatalities, the construction industry is second in severe injuries followed by Manufacturing.

- Check and compare the rank of fatalities between construction and other industries.

3 Analysis by Time

- Would there be a way to perform time series forecasting for the monthly number of cases.
 - One model to consider is seasonality.

```
# read Construction cases

cons <- read_excel("datasets/rmarkdown files/Osha_construction_Data_3-14-2020_neededVariables.xlsx")

# extract month and year
cons_v2 <- cons %>%
  mutate(EventDate_Month = month(EventDate),
         EventDate_year = year(EventDate) )
# count
freq_cons_v2 <- cons_v2 %>%
  count(EventDate_Month, EventDate_year) %>%
  arrange(EventDate_year, EventDate_Month)

freq_cons_v2 %>%
  rename (Month = EventDate_Month, Year = EventDate_year)
```

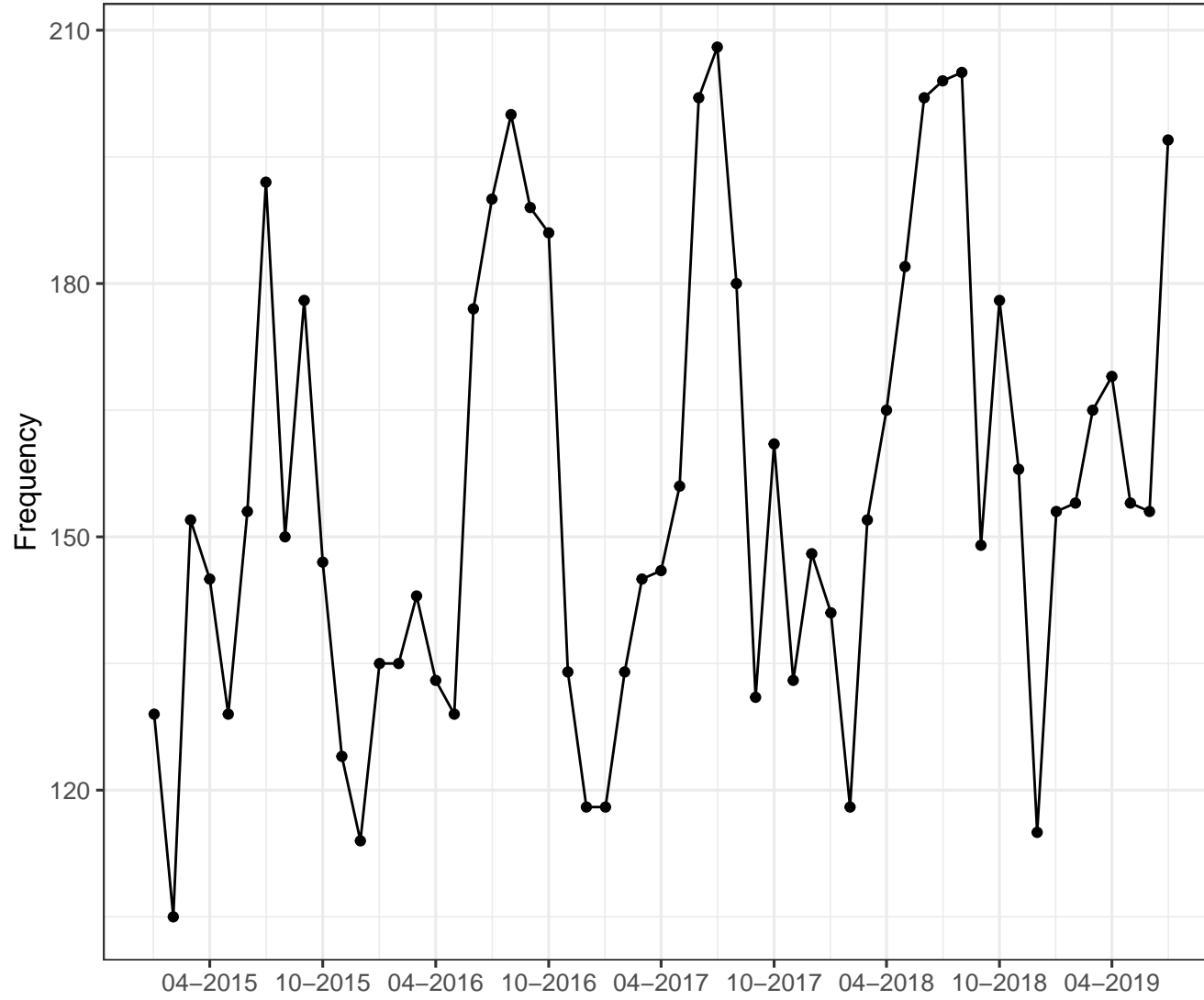
Month	Year	n
1	2015	129
2	2015	105
3	2015	152
4	2015	145
5	2015	129
6	2015	153
7	2015	192
8	2015	150
9	2015	178
10	2015	147
11	2015	124
12	2015	114

Month	Year	n
1	2016	135
2	2016	135
3	2016	143
4	2016	133
5	2016	129
6	2016	177
7	2016	190
8	2016	200
9	2016	189
10	2016	186
11	2016	134
12	2016	118
1	2017	118
2	2017	134
3	2017	145
4	2017	146
5	2017	156
6	2017	202
7	2017	208
8	2017	180
9	2017	131
10	2017	161
11	2017	133
12	2017	148
1	2018	141
2	2018	118
3	2018	152
4	2018	165
5	2018	182
6	2018	202
7	2018	204
8	2018	205
9	2018	149
10	2018	178
11	2018	158
12	2018	115
1	2019	153

Month	Year	n
2	2019	154
3	2019	165
4	2019	169
5	2019	154
6	2019	153
7	2019	197

```
freq_cons_v3 <- freq_cons_v2 %>%
  mutate(dat = paste0(EventDate_Month, sep = "/" , EventDate_year)) %>%
  mutate (dat2 = date(parse_date_time(dat, "my")) )
```

```
# time series plot
p <- ggplot(freq_cons_v3, aes(x=dat2, y=n)) +
  geom_line() +
  geom_point() +
  xlab("") +
  ylab("Frequency")+
  scale_x_date(date_breaks = "6 month", date_labels = "%m-%Y") +
  theme_bw(12)
p
```

```
# scale_x_date(date_breaks = "1 month", date_labels = "%m-%Y")
```

```
# sum by year
freq_cons_v3 %>%
  group_by(EventDate_year) %>%
  summarise(sum1 = sum(n)) %>%
  filter(EventDate_year < 2019) %>%
  rename(Year = EventDate_year, Frequency = sum1)
```

Year	Frequency
2015	1718
2016	1869
2017	1862
2018	1969

- The first construction case was reported on 1/2/2015
- The last construction case was reported on 7/31/2019

4 Analysis by State

- Number of cases = 8563
- No missing

```
proper=function(s) sub("(.)", ("\\U\\1"), tolower(s), pe=TRUE)
```

```
# Viz the freq by State
state <- cons_v2 %>%
  count(State, sort = T) %>%
  mutate(State = proper(State))
```

```
state
```

State	n
Texas	1688
Florida	1430
Pennsylvania	561
New york	524
Ohio	484
Colorado	401
Georgia	384
Illinois	351
Wisconsin	247
Louisiana	225
Alabama	206
Massachusetts	205
Missouri	199
Oklahoma	186
New jersey	166
Arkansas	130
Kansas	124
Nebraska	123
Mississippi	121
North dakota	93
West virginia	83
District of columbia	80
Idaho	76
South dakota	70
Connecticut	63
Delaware	53
Montana	53
Maine	43
New hampshire	33
Rhode island	30
California	23
North carolina	15
Virginia	15
Kentucky	11
Maryland	11
Tennessee	8
Virgin islands	7

State	n
Guam	6
South carolina	6
Hawaii	5
Washington	5
Arizona	3
American samoa	2
Iowa	2
Nevada	2
New mexico	2
Oregon	2
Puerto rico	2
Utah	2
Northern mariana islands	1
Wyoming	1

```
# data viz
thismap <- map_data ("state")
ggplot(thismap, aes(long, lat, group=group, fill=region)) +
  geom_polygon(show.legend = F) +
  geom_polygon(color = "gray90", size = 0.1) + guides(fill = FALSE) +
  ggtitle("Map of USA")
```

A map of the United States with states colored in various colors. The x-axis is labeled 'long' with values -120, -100, and -80. The map shows a distribution of colors across the states, with some colors appearing in multiple states.

```
# consider adding ggtext to include the islelands

# review
# https://socviz.co/maps.html
# https://www.datanovia.com/en/blog/how-to-create-a-map-using-ggplot2/
# https://stackoverflow.com/questions/23714052/ggplot-mapping-us-counties-problems-with-visualization-shapes-in-r
# https://stackoverflow.com/questions/48832201/plot-a-numerical-values-in-united-states-map-based-on-abbreviated-state-names
# https://stackoverflow.com/questions/48832201/plot-a-numerical-values-in-united-states-map-based-on-abbreviated-state-names
```

```
str(thismap)
```

5 Analysis By Contractor

5.1 Contractor - Level 1

```
cons_v2 %>%
  count(NAICS_L3, sort = T)
```

NAICS_L3	n
Specialty Trade Contractors	5093
Heavy and Civil Engineering Construction	1838
Construction of Buildings	1630
Construction	2

5.2 Contractor - Level 2

```
cons_v2 %>%
  count(NAICS_L4, sort = T)
```

NAICS_L4	n
Foundation, Structure, and Building Exterior Contractors	2105
Building Equipment Contractors	1625
Nonresidential Building Construction	1266
Utility System Construction	878
Other Specialty Trade Contractors	751
Highway, Street, and Bridge Construction	703
Building Finishing Contractors	611
Residential Building Construction	364
Other Heavy and Civil Engineering Construction	241
Land Subdivision	16
Construction	2
Specialty Trade Contractors	1

5.3 Contractor - Level 3

```
cons_v2 %>%
  count(NAICS_L5, sort = T)
```

NAICS_L5	n
Commercial and Institutional Building Construction	915
Electrical Contractors and Other Wiring Installation Contractors	841
Highway, Street, and Bridge Construction	703
Roofing Contractors	693
Plumbing, Heating, and Air-Conditioning Contractors	633
All Other Specialty Trade Contractors	403
Structural Steel and Precast Concrete Contractors	388
Residential Building Construction	364
Poured Concrete Foundation and Structure Contractors	359
Industrial Building Construction	350
Site Preparation Contractors	348
Water and Sewer Line and Related Structures Construction	344
Oil and Gas Pipeline and Related Structures Construction	270
Power and Communication Line and Related Structures Construction	260
Masonry Contractors	253

NAICS_L5	n
Drywall and Insulation Contractors	246
Other Heavy and Civil Engineering Construction	241
Framing Contractors	230
Painting and Wall Covering Contractors	168
Other Building Equipment Contractors	151
Finish Carpentry Contractors	89
Other Foundation, Structure, and Building Exterior Contractors	77
Other Building Finishing Contractors	57
Glass and Glazing Contractors	55
Siding Contractors	50
Flooring Contractors	32
Tile and Terrazzo Contractors	19
Land Subdivision	16
Utility System Construction	4
Construction	2
Nonresidential Building Construction	1
Specialty Trade Contractors	1

- We will use level 1 and/or level 2 as level 3 increase the dimensions.

6 Analysis By Event

6.1 Event - Level 1

```
cons_v2 %>%
  count(event_L1, sort = T)
```

event_L1	n
FALLS, SLIPS, TRIPS	3422
CONTACT WITH OBJECTS AND EQUIPMENT	3388
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	851
TRANSPORTATION INCIDENTS	546
FIRES AND EXPLOSIONS	138

event_L1	n
Nonclassifiable	91
OVEREXERTION AND BODILY REACTION	75
VIOLENCE AND OTHER INJURIES BY PERSONS OR ANIMALS	52

6.2 Event - Level 2

```
cons_v2 %>%
  count(event_L2, sort = T)
```

event_L2	n
Falls to lower level	2943
Struck by object or equipment	1985
Caught in or compressed by equipment or objects	1019
Exposure to electricity	394
Exposure to temperature extremes	376
Falls on same level	325
Pedestrian vehicular incidents	315
Struck against object or equipment	204
Nonroadway incidents involving motorized land vehicles	177
Fires	101
Contact with objects and equipment, unspecified	96
Nonclassifiable	91
Exposure to other harmful substances	78
Struck, caught, or crushed in collapsing structure, equipment, or material	70
Fall, slip, trip, unspecified	66
Overexertion involving outside sources	44
Jumps to lower level	37
Explosions	36
Roadway incidents involving motorized land vehicle	35
Slip or trip without fall	32
Animal and insect related incidents	28
Other exertions or bodily reactions	22
Fall or jump curtailed by personal fall arrest system	18
Intentional injury by person	18

event_L2	n
Water vehicle incidents	15
Contact with objects and equipment, n.e.c.	11
Overexertion and bodily reaction, unspecified	7
Injury by person—unintentional or intent unknown	6
Exposure to harmful substances or environments, unspecified	3
Rubbed or abraded by friction or pressure	3
Bodily conditions, n.e.c.	2
Aircraft incidents	1
Animal and other non-motorized vehicle transportation incidents	1
Fall, slip, trip, n.e.c.	1
Fire or explosion, unspecified	1
Rail vehicle incidents	1
Transportation incident, unspecified	1

6.3 Event - Level 3

```
cons_v2 %>%
  count(event_L3, sort = T)
```

event_L3	n
Other fall to lower level	2403
Struck by falling object or equipment—other than powered vehicle	746
Compressed or pinched by shifting objects or equipment	535
Injured by handheld object or equipment	426
Fall through surface or existing opening	359
Caught in running equipment or machinery	347
Struck by discharged or flying object	321
Direct exposure to electricity	313
Exposure to environmental heat	287
Struck by powered vehicle—nontransport	197
Pedestrian struck by vehicle in nonroadway area	177
Fall from collapsing structure or equipment	150
Struck against moving object or equipment	141
Nonroadway noncollision incident	121

event_L3	n
Fall on same level due to tripping	114
Struck by object or equipment, unspecified	111
Struck by swinging or slipping object, other than handheld	103
Fall on same level due to slipping	98
Contact with objects and equipment, unspecified	96
Pedestrian struck by vehicle in work zone	92
Nonclassifiable	91
Caught in or compressed by equipment or objects, unspecified	89
Contact with hot objects or substances	83
Fall on same level, n.e.c.	78
Fall, slip, trip, unspecified	66
Struck by rolling object or equipment—other than powered vehicle	61
Indirect exposure to electricity	60
Struck against stationary object or equipment	59
Ignition of vapors, gases, or liquids	52
Nonroadway collisions with object other than vehicle	42
Excavation or trenching cave-in	40
Exposure to harmful substance through skin, eyes, or other exposed tissue	36
Inhalation of harmful substance	34
Other jump to lower level	34
Entangled in other object or equipment	32
Fall to lower level, unspecified	31
Bites and stings	28
Struck, caught, or crushed in other collapsing structure or equipment	27
Fall on same level, unspecified	22
Exposure to electricity, unspecified	21
Ignition of clothing from controlled heat source	20
Struck by object or equipment, n.e.c.	20
Roadway noncollision incident	19
Fall or jump curtailed by personal fall arrest system	18
Intentional injury by other person	18
Explosion of pressure vessel, piping, or tire	17
Pedestrian struck by vehicle in roadway	17
Pedestrian vehicular incident, unspecified	15
Slip without fall	15
Fire, unspecified	13
Nonroadway collision with other vehicle	13

event_L3	n
Fall onto or against object on same level, n.e.c.	12
Bending, crawling, reaching, twisting, climbing, stepping	11
Caught in or compressed by equipment or objects, n.e.c.	11
Contact with objects and equipment, n.e.c.	11
Overexertion in lifting, lowering	11
Overexertion in pushing, pulling, or turning	11
Overexertion involving outside sources, unspecified	10
Trip without fall	10
Vehicle or machinery fire	10
Pedestrian struck by vehicle on side of road	9
Roadway collision with other vehicle	9
Explosion, n.e.c.	7
Overexertion and bodily reaction, unspecified	7
Explosion, unspecified	6
Water vehicle incident, n.e.c.	6
Compressed or pinched between two stationary objects	5
Contact with cold objects or substances	5
Explosion of nonpressurized vapors, gases, or liquids	5
Injury by other person—unintentional or intent unknown	5
Multiple types of overexertion involving outside sources	5
Pedestrian vehicular incident, n.e.c.	5
Roadway collision with object other than vehicle	5
Slip or trip without fall, unspecified	5
Exposure to other harmful substances, unspecified	4
Ingestion of harmful substance	4
Machinery or equipment incident on water vehicle	4
Other exertions or bodily reactions	4
Overexertion in holding, carrying, or wielding	4
Struck against object or equipment, unspecified	4
Exposure to harmful substances or environments, unspecified	3
Jump from collapsing structure or equipment	3
Walking, without other incident	3
Boarding, alighting—excluding slip, trip, fall	2
Bodily conditions, n.e.c.	2
Fall on water vehicle	2
Fall or jump from water vehicle	2
Nonstructural fire, n.e.c.	2

event_L3	n
Other exertions or bodily reactions, unspecified	2
Other structural fire without collapse	2
Overexertion in throwing, catching	2
Roadway incident involving motorized land vehicle, unspecified	2
Rubbed or abraded by friction or pressure, n.e.c.	2
Slip or trip without fall, n.e.c.	2
Small-scale (limited) fire	2
Aircraft incident, n.e.c.	1
Demolition or blasting explosion	1
Engulfment in other collapsing material	1
Exposure to environmental cold	1
Fall while sitting	1
Fall, slip, trip, n.e.c.	1
Fire or explosion, unspecified	1
Nonroadway incident involving motorized land vehicle, unspecified	1
Overexertion involving outside sources, n.e.c.	1
Pedal cycle incident	1
Rail vehicle incident, n.e.c.	1
Rubbed or abraded by friction or pressure, unspecified	1
Self-inflicted injury—unintentional or intent unknown	1
Struck, caught, or crushed in collapsing structure, equipment, or material, n.e.c.	1
Struck, caught, or crushed in collapsing structure, equipment, or material, unspecified	1
Transportation incident, unspecified	1
Water vehicle collisions	1

6.4 Event 1 and 2

```
taby1_1 <- cons_v2 %>%
  tabyl ( event_L2, event_L1)

write.csv(taby1_1, "datasets/rmarkdown files/output/taby1_1.csv", na = "")
```

- We will use level 1 and/or level 2 as level 3 increase the dimensions.

7 Hospitalization

```
cons_v2 %>%  
  count(Hospitalized_Y_N, sort = T)
```

Hospitalized_Y_N	n
Y	7652
N	911

7.1 Hospitalization by Event

```
# cluster the analysis by Event  
cons_v2 %>%  
  group_by(event_L1) %>%  
  count(Hospitalized_Y_N)
```

event_L1	Hospitalized_Y_N	n
CONTACT WITH OBJECTS AND EQUIPMENT	N	860
CONTACT WITH OBJECTS AND EQUIPMENT	Y	2528
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	Y	851
FALLS, SLIPS, TRIPS	N	24
FALLS, SLIPS, TRIPS	Y	3398
FIRES AND EXPLOSIONS	Y	138
Nonclassifiable	N	7
Nonclassifiable	Y	84
OVEREXERTION AND BODILY REACTION	Y	75
TRANSPORTATION INCIDENTS	N	20
TRANSPORTATION INCIDENTS	Y	526
VIOLENCE AND OTHER INJURIES BY PERSONS OR ANIMALS	Y	52

```
# cluster the anlysis by Event
cons_v2 %>%
  tabyl (event_L1, Hospitalized_Y_N)
```

event_L1	N	Y
CONTACT WITH OBJECTS AND EQUIPMENT	860	2528
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	0	851
FALLS, SLIPS, TRIPS	24	3398
FIRES AND EXPLOSIONS	0	138
Nonclassifiable	7	84
OVEREXERTION AND BODILY REACTION	0	75
TRANSPORTATION INCIDENTS	20	526
VIOLENCE AND OTHER INJURIES BY PERSONS OR ANIMALS	0	52

8 Amputation

```
cons_v2 %>%
  count(Amputation_Y_N)
```

Amputation_Y_N	n
N	7265
Y	1298

8.1 Amputation by Event

```
# cluster the anlysis by Event
cons_v2 %>%
  tabyl (event_L1, Amputation_Y_N)
```

event_L1	N	Y
CONTACT WITH OBJECTS AND EQUIPMENT	2179	1209
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	846	5
FALLS, SLIPS, TRIPS	3395	27
FIRES AND EXPLOSIONS	137	1
Nonclassifiable	75	16
OVEREXERTION AND BODILY REACTION	75	0
TRANSPORTATION INCIDENTS	506	40
VIOLENCE AND OTHER INJURIES BY PERSONS OR ANIMALS	52	0

8.2 Amputation by Source - Level 1

```
cons_v2 %>%
  tabyl (source1_L1, Amputation_Y_N)
```

source1_L1	N	Y
CHEMICALS AND CHEMICAL PRODUCTS	174	2
CONTAINERS, FURNITURE AND FIXTURES	152	52
MACHINERY	752	472
Nonclassifiable	366	54
OTHER SOURCES	455	7
PARTS AND MATERIALS	1177	339
PERSONS, PLANTS, ANIMALS, AND MINERALS	156	3
STRUCTURES AND SURFACES	2106	93
TOOLS, INSTRUMENTS, AND EQUIPMENT	1299	180
VEHICLES	628	96

8.3 Amputation by Source - Level 2

```
cons_v2 %>%
  tabyl (source1_L2, Amputation_Y_N) %>%
  arrange(desc(Y))
```


source1_L2	N	Y
Metal, woodworking, and special material machinery	75	191
Building materials—solid elements	473	164
Handtools—powered	227	140
Construction, logging, and mining machinery	331	108
Material and personnel handling machinery	283	95
Nonclassifiable	366	54
Other structural elements	880	54
Highway vehicles, motorized	402	52
Machine, tool, and electric parts	381	52
Fasteners, connectors, ropes, ties	138	49
Containers	115	43
Heating, cooling, and cleaning machinery and appliances	27	34
Other parts and materials	30	30
Vehicle and mobile equipment parts	89	29
Off-road and industrial vehicles—powered	174	28
Handtools—nonpowered	58	23
Special process machinery	14	23
Structures other than buildings	589	21
Floors, walkways, ground surfaces	498	17
Machinery, unspecified	11	17
Handtools—power not determined	19	10
Furniture and fixtures	37	9
Plant and industrial vehicles—nonpowered	25	9
Hoisting accessories	21	8
Ladders	965	6
Parts and materials, unspecified	16	6
Scrap, waste, debris	84	6
Water vehicles	12	6
Miscellaneous machinery	6	4
Person—injured or ill worker	53	3
Chemical products—general	30	2
Environmental and elemental conditions	319	1
Metal materials—nonstructural	7	1
Other vehicles	4	1
Protective equipment, except clothing	1	1
Structures and surfaces, n.e.c.	3	1
Acids and alkalies	20	0

source1_L2	N	Y
Agricultural and garden machinery	4	0
Aircraft	2	0
Animal- and human- powered vehicles	1	0
Animal and plant byproducts	1	0
Animals	28	0
Apparel and textiles	19	0
Aromatics and hydrocarbon derivatives, except halogenated	11	0
Buildings—office, plant, residential	13	0
Chemicals and chemical products, n.e.c.	4	0
Chemicals and chemical products, unspecified	12	0
Coal, natural gas, petroleum fuels and products	61	0
Confined spaces	74	0
Firearms, law enforcement, and other self-defense equipment	1	0
Geographical structures	4	0
Halogens and halogen compounds	5	0
Infectious and parasitic agents	3	0
Metallic particulates, trace elements, dusts, powders, fumes	2	0
Nonmetallic minerals, except fuel	16	0
Office and business machinery	1	0
Other chemicals	29	0
Other steam, vapors, liquids, ice	33	0
Other tools, instruments, and equipment	25	0
Person—other than injured or ill worker	25	0
Plants, trees, vegetation—not processed	30	0
Rail vehicles	3	0
Structures and surfaces, unspecified	45	0
Tars, sealants, caulking, insulating material	22	0
Tools, instruments, and equipment, unspecified	3	0
Vehicle, unspecified	5	0

8.4 Amputation by Part of Body - Level 1

```
cons_v2 %>%
  tabyl (part_L1, Amputation_Y_N) %>%
  arrange(desc(Y))
```

part_L1	N	Y
UPPER EXTREMITIES	1273	1219
LOWER EXTREMITIES	1693	68
Nonclassifiable	658	8
MULTIPLE BODY PARTS	1142	3
BODY SYSTEMS	479	0
HEAD	746	0
NECK, INCLUDING THROAT	55	0
TRUNK	1219	0

8.5 Amputation by Part of Body - Level 2

```
cons_v2 %>%
  tabyl (part_L2, Amputation_Y_N) %>%
  arrange(desc(Y))
```

part_L2	N	Y
Hand(s)	599	1209
Foot (feet)	235	41
Leg(s)	1081	26
Arm(s)	355	8
Nonclassifiable	658	8
Other multiple body parts	773	2
Lower extremities, unspecified	17	1
Multiple upper extremities locations	100	1
Upper and lower limb(s)	115	1
Upper extremities, unspecified	4	1
Abdomen	101	0
Ankle(s)	253	0
Back, including spine, spinal cord	331	0
BODY SYSTEMS	479	0
Chest, including ribs, internal organs	384	0
Cranial region, including skull	392	0
Ear(s)	6	0
Face	261	0

part_L2	N	Y
Head and neck	27	0
Head and trunk	113	0
Head, neck, and trunk	10	0
Head, unspecified	58	0
Hip(s) and leg(s)	24	0
Multiple body parts, unspecified	58	0
Multiple head locations	29	0
Multiple lower extremities locations	107	0
Multiple trunk locations	126	0
Neck and back	16	0
Neck, except internal location of diseases or disorders	55	0
Pelvic region	268	0
Shoulder(s) and back	6	0
Shoulder(s), including clavicle(s), scapula(e)	75	0
Trunk, unspecified	9	0
Wrist(s)	140	0

9 Analysis By Source (Main Source)

9.1 Source (Main Source) - Level 1

```
cons_v2 %>%
  count(source1_L1, sort = T)
```

source1_L1	n
STRUCTURES AND SURFACES	2199
PARTS AND MATERIALS	1516
TOOLS, INSTRUMENTS, AND EQUIPMENT	1479
MACHINERY	1224
VEHICLES	724
OTHER SOURCES	462
Nonclassifiable	420
CONTAINERS, FURNITURE AND FIXTURES	204

source1_L1	n
CHEMICALS AND CHEMICAL PRODUCTS	176
PERSONS, PLANTS, ANIMALS, AND MINERALS	159

9.2 Source (Main Source) - Level 2

```
cons_v2 %>%
  count(source1_L2, sort = T)
```

source1_L2	n
Ladders	971
Other structural elements	934
Building materials—solid elements	637
Structures other than buildings	610
Floors, walkways, ground surfaces	515
Highway vehicles, motorized	454
Construction, logging, and mining machinery	439
Machine, tool, and electric parts	433
Nonclassifiable	420
Material and personnel handling machinery	378
Handtools—powered	367
Environmental and elemental conditions	320
Metal, woodworking, and special material machinery	266
Off-road and industrial vehicles—powered	202
Fasteners, connectors, ropes, ties	187
Containers	158
Vehicle and mobile equipment parts	118
Scrap, waste, debris	90
Handtools—nonpowered	81
Confined spaces	74
Coal, natural gas, petroleum fuels and products	61
Heating, cooling, and cleaning machinery and appliances	61
Other parts and materials	60
Person—injured or ill worker	56
Furniture and fixtures	46

source1_L2	n
Structures and surfaces, unspecified	45
Special process machinery	37
Plant and industrial vehicles—nonpowered	34
Other steam, vapors, liquids, ice	33
Chemical products—general	32
Plants, trees, vegetation—not processed	30
Handtools—power not determined	29
Hoisting accessories	29
Other chemicals	29
Animals	28
Machinery, unspecified	28
Other tools, instruments, and equipment	25
Person—other than injured or ill worker	25
Parts and materials, unspecified	22
Tars, sealants, caulking, insulating material	22
Acids and alkalies	20
Apparel and textiles	19
Water vehicles	18
Nonmetallic minerals, except fuel	16
Buildings—office, plant, residential	13
Chemicals and chemical products, unspecified	12
Aromatics and hydrocarbon derivatives, except halogenated	11
Miscellaneous machinery	10
Metal materials—nonstructural	8
Halogens and halogen compounds	5
Other vehicles	5
Vehicle, unspecified	5
Agricultural and garden machinery	4
Chemicals and chemical products, n.e.c.	4
Geographical structures	4
Structures and surfaces, n.e.c.	4
Infectious and parasitic agents	3
Rail vehicles	3
Tools, instruments, and equipment, unspecified	3
Aircraft	2
Metallic particulates, trace elements, dusts, powders, fumes	2
Protective equipment, except clothing	2

source1_L2	n
Animal- and human- powered vehicles	1
Animal and plant byproducts	1
Firearms, law enforcement, and other self-defense equipment	1
Office and business machinery	1

9.3 Source (Main Source) - Level 3

```
cons_v2 %>%
  count(source1_L3, sort = T)
```

source1_L3	n
Ladders—movable	639
Roofs	547
Scaffolds, staging	424
Nonclassifiable	420
Electric parts	347
Temperature extremes—environmental	288
Trucks—motorized freight hauling and utility	279
Structural metal materials	269
Ladders, unspecified	262
Cutting handtools—powered	242
Pipes, ducts, tubing	209
Elevators, hoists, aerial lifts, personnel platforms—except truck-mounted	190
Floors	176
Excavating machinery	174
Structural elements, n.e.c.	166
Floors, walkways, ground surfaces, unspecified	157
Industrial vehicles, material hauling and transport—powered	155
Sawing machinery—stationary	142
Cranes	113
Other structures	91
Fasteners	87
Highway vehicle, motorized, unspecified	86
Road grading and surfacing machinery	84

source1_L3	n
Loaders	82
Containers—nonpressurized	78
Ropes, ties, chains	73
Trusses, girders, beams—structurally attached	73
Machine and appliance parts	68
Towers, poles	64
Ditches, channels, trenches, excavations	63
Ceilings, walls	62
Ladders—fixed	60
Stairs, steps, escalators	60
Mining and drilling machinery	58
Trailers	57
Other building materials—solid elements	56
Ground	55
Boring handtools—powered	54
Vehicle and mobile equipment parts, n.e.c.	50
Wood, lumber	50
Bodily motion or position of injured, ill worker	49
Petroleum fuels, distillates, and products, n.e.c.	49
Passenger vehicles—automobiles, buses, and passenger vans	48
Caps, lids, covers	46
Structures and surfaces, unspecified	45
Multi-purpose highway vehicles	41
Bending, rolling, shaping machinery	38
Chips, particles, splinters	36
Containers—variable restraint	36
Containers—pressurized	35
Entrances and exits	35
Other construction, logging, and mining machinery	34
Other special process machinery	34
Cooling and humidifying machinery and appliances	32
Off-road passenger vehicles—powered	32
Surfacing handtools—powered	31
Bricks, blocks, structural stone	30
Trees, logs, limbs	30
Machinery, unspecified	28
Cart, dolly, hand truck—nonpowered	27

source1_L3	n
Conveyors—powered	26
Boring, drilling, planing, milling machinery	25
Bridges, dams, locks	25
Striking and nailing handtools—nonpowered	25
Tools, instruments, and equipment, n.e.c.	25
Flooding and other water sources	24
Cases, cabinets, racks, shelves	22
Cutting handtools—nonpowered	22
Liquids—nonchemical	22
Parts and materials, unspecified	22
Building materials, unspecified	20
Construction debris	20
Other metal, woodworking, and special material machinery	20
Clothing and shoes	19
Curbs, traffic calming bumps, embankments	19
Other floors, walkways, ground surfaces	19
Scrap, waste, debris, n.e.c.	18
Windows, openings	17
Alkalies	16
Co-worker or work associate of injured or ill worker	16
Fences, fence panels, gates	16
Metal, woodworking, and special material machinery, unspecified	16
Oxygen and oxygen compounds	16
Roofing asphalt, roofing tar	16
Hooks, shackles, magnets, clamshells	15
Other handtools—nonpowered	15
Reptiles	15
Elevator shafts	14
Fasteners, connectors, ropes, ties, n.e.c.	14
Parts and materials, n.e.c.	14
Striking and nailing handtools—powered	14
Other material and personnel handling machinery	13
Chemicals and chemical products, unspecified	12
Insects, arachnids, mites	12
Presses, except printing	12
Tool parts, accessories	12
Valves, nozzles	12

source1_L3	n
Hoisting accessories, n.e.c.	11
Jacks	11
Overhead hoists	11
Sidewalks, paths, outdoor walkways	11
Heating, cooling, and cleaning machinery and appliances, unspecified	10
Ladders, n.e.c.	10
Paint, lacquer, shellac, varnish	10
Parking lots	10
Tractors, PTOs	10
Cutting handtools—power not determined	9
Heating, cooling, and cleaning machinery and appliances, n.e.c.	9
Material and personnel handling machinery, unspecified	9
Turning handtools—nonpowered	9
Turning handtools—powered	9
Underground mines, caves, tunnels	9
Barge	8
Lighting fixtures and equipment	8
Scrap, waste, debris, unspecified	8
Streets, roads, driveways	8
Tires, inner tubes, wheels	8
Turning handtools—power not determined	8
Welding and heating handtools—powered	8
Furniture	7
Other chemical products—general	7
Other handtools—powered	7
Other machinery	7
Residential buildings, except institutionalized	7
Scrap metal	7
Steam, vapors—nonchemical	7
Building, unspecified	6
Construction, logging, and mining machinery, unspecified	6
Rocks, crushed stone	6
Skids, pallets	6
Water vehicle, unspecified	6
Blackboards, bulletin boards, mirrors	5
Cleaning and polishing agents, disinfectants	5
Coal, natural gas, petroleum fuels and products, unspecified	5

source1_L3	n
Extruding, injecting, forming, molding machinery	5
Grinding, polishing machinery	5
Heating and cooking machinery and appliances	5
Machine, tool, and electric parts, unspecified	5
Natural gas	5
Plastics, resins	5
Solvents, degreasers	5
Vehicle, unspecified	5
Washers, dryers, and cleaning machinery and appliances	5
Weather and atmospheric conditions	5
Acids	4
Assailant, suspect, inmate	4
Chemicals and chemical products, n.e.c.	4
Fluorine and fluorine compounds	4
Handtools—power not determined, unspecified	4
Off-road or industrial vehicle—powered, n.e.c	4
Other structural elements, unspecified	4
Person, other than injured or ill worker, unspecified	4
Street sweeping and cleaning machinery	4
Striking and nailing handtools—power not determined	4
Structures and surfaces, n.e.c.	4
Surfacing handtools—nonpowered	4
Tars, sealants, caulking, insulation, unspecified	4
Water vehicle, n.e.c	4
Alcohols	3
Aromatics	3
Bacteria	3
Bodily conditions of injured, ill worker	3
Conveyors—gravity and nonpowered	3
Digging handtools—nonpowered	3
Dirt, earth	3
Gripping handtools—nonpowered	3
Metal sheets, ingots, bars—nonstructural	3
Pallet jack—nonpowered	3
Person—injured or ill worker, unspecified	3
Plumbing fixtures	3
Product testing, inspecting, and diagnostic machinery, n.e.c.	3

source1_L3	n
Raised natural structures, hills, mountains	3
Sewer, mine, and similar gases	3
Slings	3
Structures other than buildings, unspecified	3
Tiles, shingles	3
Tools, instruments, and equipment, unspecified	3
Train, locomotive, rail car	3
Adhesives, glues, n.e.c.	2
Boring handtools—power not determined	2
Boulders	2
Clay—natural and processed	2
Engine parts and accessories	2
Fire, flame, smoke	2
Handtools—powered, unspecified	2
Ketones	2
Lifelines, lanyards, safety belts, harnesses	2
Luggage, handbags	2
Metal materials—nonstructural, n.e.c.	2
Metal materials—nonstructural, unspecified	2
Other agricultural and garden machinery	2
Other chemicals, n.e.c.	2
Other handtools—power not determined	2
Petroleum, crude oil	2
Plant and industrial vehicle—nonpowered, n.e.c	2
Sand, gravel	2
Sealants, waterproofers, n.e.c.	2
Steam, vapors, liquids, ice, n.e.c.	2
Steam, vapors, liquids, ice, unspecified	2
Sulfur and sulfur compounds	2
Threading and tapping machines	2
Wheelbarrow	2
Air pressure	1
Aircraft—powered rotary wing	1
Airplanes—powered fixed wing	1
Aldehydes	1
Ammonia and ammonium compounds	1
Animal products, nonfood	1

source1_L3	n
Aromatics and hydrocarbon derivatives, except halogenated, unspecified	1
Bicycle, pedal cycle	1
Chemical products, unspecified	1
Chlorine and chlorine compounds	1
Computers and peripheral equipment	1
Confined spaces, unspecified	1
Containers, unspecified	1
Derricks and related equipment	1
Drugs, alcohol, and medicines	1
Excavations, strip mines, and quarries (except confined space)	1
Explosives, blasting agents	1
Fasteners, connectors, ropes, ties, unspecified	1
Firearms	1
Food and beverage processing machinery—specialized	1
Furniture and fixtures, unspecified	1
Grandstands, stadia	1
Lathes	1
Logging and wood processing machinery—specialized	1
Machine, tool, and electric parts, n.e.c.	1
Mammals, except humans	1
Molten or hot metals, slag	1
Mowing machinery	1
Mud	1
Off-road or industrial vehicle—powered, unspecified	1
Other aromatics and hydrocarbon derivatives, except halogenated	1
Other metallics and compounds	1
Packaging, bottling, wrapping machinery	1
Person—injured or ill worker, n.e.c.	1
Plowing, planting, and fertilizing machinery	1
Pools	1
Ski lifts, nonrail amusement rides	1
Special process machinery, unspecified	1
Student	1
Tank, bin, vat interiors	1
Trash, garbage	1
Vehicle doors, liftgates, tailgates	1
Vehicle, n.e.c	1

source1_L3	n
Water bodies—natural	1
Welding or soldering fumes, unspecified or n.e.c.	1

9.4 Source by Event - Level 1

```
cons_v2 %>%
  tabyl (source1_L1, event_L1)
```

source1_L1	CONTACT WITH OBJECTS AND EQUIPMENT	EXPOSURE TO HARMFUL SUBSTANCES OR ENV
CHEMICALS AND CHEMICAL PRODUCTS	24	
CONTAINERS, FURNITURE AND FIXTURES	144	
MACHINERY	830	
Nonclassifiable	114	
OTHER SOURCES	118	
PARTS AND MATERIALS	1112	
PERSONS, PLANTS, ANIMALS, AND MINERALS	43	
STRUCTURES AND SURFACES	333	
TOOLS, INSTRUMENTS, AND EQUIPMENT	467	
VEHICLES	203	

```
cons_v2 %>%
  count(event_L1, source1_L1, sort = T)
```

event_L1	source1_L1	n
FALLS, SLIPS, TRIPS	STRUCTURES AND SURFACES	1848
CONTACT WITH OBJECTS AND EQUIPMENT	PARTS AND MATERIALS	1112
FALLS, SLIPS, TRIPS	TOOLS, INSTRUMENTS, AND EQUIPMENT	978
CONTACT WITH OBJECTS AND EQUIPMENT	MACHINERY	830
CONTACT WITH OBJECTS AND EQUIPMENT	TOOLS, INSTRUMENTS, AND EQUIPMENT	467
TRANSPORTATION INCIDENTS	VEHICLES	353
CONTACT WITH OBJECTS AND EQUIPMENT	STRUCTURES AND SURFACES	333
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	PARTS AND MATERIALS	332

event_L1	source1_L1	n
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	OTHER SOURCES	321
CONTACT WITH OBJECTS AND EQUIPMENT	VEHICLES	203
TRANSPORTATION INCIDENTS	MACHINERY	190
FALLS, SLIPS, TRIPS	Nonclassifiable	178
FALLS, SLIPS, TRIPS	MACHINERY	160
CONTACT WITH OBJECTS AND EQUIPMENT	CONTAINERS, FURNITURE AND FIXTURES	144
FALLS, SLIPS, TRIPS	VEHICLES	144
CONTACT WITH OBJECTS AND EQUIPMENT	OTHER SOURCES	118
CONTACT WITH OBJECTS AND EQUIPMENT	Nonclassifiable	114
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	CHEMICALS AND CHEMICAL PRODUCTS	96
Nonclassifiable	Nonclassifiable	74
FIRES AND EXPLOSIONS	CHEMICALS AND CHEMICAL PRODUCTS	56
VIOLENCE AND OTHER INJURIES BY PERSONS OR ANIMALS	PERSONS, PLANTS, ANIMALS, AND MINERALS	52
FALLS, SLIPS, TRIPS	PARTS AND MATERIALS	51
CONTACT WITH OBJECTS AND EQUIPMENT	PERSONS, PLANTS, ANIMALS, AND MINERALS	43
FALLS, SLIPS, TRIPS	CONTAINERS, FURNITURE AND FIXTURES	33
FALLS, SLIPS, TRIPS	PERSONS, PLANTS, ANIMALS, AND MINERALS	30
OVEREXERTION AND BODILY REACTION	PERSONS, PLANTS, ANIMALS, AND MINERALS	30
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	Nonclassifiable	28
CONTACT WITH OBJECTS AND EQUIPMENT	CHEMICALS AND CHEMICAL PRODUCTS	24
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	MACHINERY	24
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	TOOLS, INSTRUMENTS, AND EQUIPMENT	21
FIRES AND EXPLOSIONS	OTHER SOURCES	21
FIRES AND EXPLOSIONS	Nonclassifiable	19
OVEREXERTION AND BODILY REACTION	PARTS AND MATERIALS	16
FIRES AND EXPLOSIONS	CONTAINERS, FURNITURE AND FIXTURES	15
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	STRUCTURES AND SURFACES	9
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	VEHICLES	9
FIRES AND EXPLOSIONS	MACHINERY	9
OVEREXERTION AND BODILY REACTION	TOOLS, INSTRUMENTS, AND EQUIPMENT	9
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	CONTAINERS, FURNITURE AND FIXTURES	7
FIRES AND EXPLOSIONS	VEHICLES	7
Nonclassifiable	VEHICLES	7
Nonclassifiable	MACHINERY	6
OVEREXERTION AND BODILY REACTION	CONTAINERS, FURNITURE AND FIXTURES	5
OVEREXERTION AND BODILY REACTION	MACHINERY	5
EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS	PERSONS, PLANTS, ANIMALS, AND MINERALS	4

event_L1	source1_L1	n
FIRES AND EXPLOSIONS	PARTS AND MATERIALS	4
FIRES AND EXPLOSIONS	TOOLS, INSTRUMENTS, AND EQUIPMENT	4
OVEREXERTION AND BODILY REACTION	Nonclassifiable	4
OVEREXERTION AND BODILY REACTION	STRUCTURES AND SURFACES	4
FIRES AND EXPLOSIONS	STRUCTURES AND SURFACES	3
TRANSPORTATION INCIDENTS	Nonclassifiable	3
Nonclassifiable	STRUCTURES AND SURFACES	2
Nonclassifiable	OTHER SOURCES	1
Nonclassifiable	PARTS AND MATERIALS	1
OVEREXERTION AND BODILY REACTION	OTHER SOURCES	1
OVEREXERTION AND BODILY REACTION	VEHICLES	1

- We will use level 1 and/or level 2 after selecting the top 10 or 20 (still to be decided).

10 Analysis By Main Source and Secondary Source

The number of cases with both main source and secondary source are 2792. The number of missing secondary source is 5771. The number of construction related cases is 8563.

10.1 Main Source and Secondary source - Level 1

```
# count the missing cases
miss_source2 <- cons_v2 %>%
  filter(is.na(source2_L1)) %>%
  count(source2_L1)

cons_v2 %>%
  filter(!is.na(source2_L1)) %>%
  count(source1_L1, source2_L1, sort = T)
```


source1_L1	source2_L1	n
STRUCTURES AND SURFACES	STRUCTURES AND SURFACES	363
TOOLS, INSTRUMENTS, AND EQUIPMENT	STRUCTURES AND SURFACES	209
PARTS AND MATERIALS	MACHINERY	162
STRUCTURES AND SURFACES	PARTS AND MATERIALS	132
STRUCTURES AND SURFACES	OTHER SOURCES	118
PARTS AND MATERIALS	PARTS AND MATERIALS	113
PARTS AND MATERIALS	TOOLS, INSTRUMENTS, AND EQUIPMENT	97
TOOLS, INSTRUMENTS, AND EQUIPMENT	PARTS AND MATERIALS	94
PARTS AND MATERIALS	VEHICLES	92
MACHINERY	STRUCTURES AND SURFACES	88
MACHINERY	PARTS AND MATERIALS	80
VEHICLES	STRUCTURES AND SURFACES	73
PARTS AND MATERIALS	STRUCTURES AND SURFACES	68
MACHINERY	OTHER SOURCES	62
STRUCTURES AND SURFACES	MACHINERY	59
TOOLS, INSTRUMENTS, AND EQUIPMENT	OTHER SOURCES	58
STRUCTURES AND SURFACES	TOOLS, INSTRUMENTS, AND EQUIPMENT	55
OTHER SOURCES	TOOLS, INSTRUMENTS, AND EQUIPMENT	53
STRUCTURES AND SURFACES	Nonclassifiable	45
PARTS AND MATERIALS	CONTAINERS, FURNITURE AND FIXTURES	37
VEHICLES	VEHICLES	35
STRUCTURES AND SURFACES	CONTAINERS, FURNITURE AND FIXTURES	34
VEHICLES	PARTS AND MATERIALS	32
CHEMICALS AND CHEMICAL PRODUCTS	MACHINERY	28
CHEMICALS AND CHEMICAL PRODUCTS	TOOLS, INSTRUMENTS, AND EQUIPMENT	28
Nonclassifiable	TOOLS, INSTRUMENTS, AND EQUIPMENT	28
TOOLS, INSTRUMENTS, AND EQUIPMENT	Nonclassifiable	28
Nonclassifiable	STRUCTURES AND SURFACES	26
STRUCTURES AND SURFACES	PERSONS, PLANTS, ANIMALS, AND MINERALS	26
MACHINERY	VEHICLES	25
OTHER SOURCES	MACHINERY	25
MACHINERY	MACHINERY	21
STRUCTURES AND SURFACES	VEHICLES	21
TOOLS, INSTRUMENTS, AND EQUIPMENT	CONTAINERS, FURNITURE AND FIXTURES	20
VEHICLES	MACHINERY	20
CONTAINERS, FURNITURE AND FIXTURES	VEHICLES	18
Nonclassifiable	PARTS AND MATERIALS	17

source1_L1	source2_L1	n
PARTS AND MATERIALS	OTHER SOURCES	15
VEHICLES	OTHER SOURCES	14
VEHICLES	CONTAINERS, FURNITURE AND FIXTURES	13
CONTAINERS, FURNITURE AND FIXTURES	STRUCTURES AND SURFACES	12
MACHINERY	TOOLS, INSTRUMENTS, AND EQUIPMENT	12
OTHER SOURCES	PARTS AND MATERIALS	12
CONTAINERS, FURNITURE AND FIXTURES	PARTS AND MATERIALS	11
TOOLS, INSTRUMENTS, AND EQUIPMENT	TOOLS, INSTRUMENTS, AND EQUIPMENT	11
CONTAINERS, FURNITURE AND FIXTURES	MACHINERY	10
MACHINERY	PERSONS, PLANTS, ANIMALS, AND MINERALS	10
PERSONS, PLANTS, ANIMALS, AND MINERALS	TOOLS, INSTRUMENTS, AND EQUIPMENT	10
Nonclassifiable	Nonclassifiable	9
PERSONS, PLANTS, ANIMALS, AND MINERALS	PERSONS, PLANTS, ANIMALS, AND MINERALS	9
Nonclassifiable	VEHICLES	8
PERSONS, PLANTS, ANIMALS, AND MINERALS	OTHER SOURCES	8
CHEMICALS AND CHEMICAL PRODUCTS	CONTAINERS, FURNITURE AND FIXTURES	7
MACHINERY	CONTAINERS, FURNITURE AND FIXTURES	7
PERSONS, PLANTS, ANIMALS, AND MINERALS	MACHINERY	7
TOOLS, INSTRUMENTS, AND EQUIPMENT	MACHINERY	7
TOOLS, INSTRUMENTS, AND EQUIPMENT	PERSONS, PLANTS, ANIMALS, AND MINERALS	7
CHEMICALS AND CHEMICAL PRODUCTS	OTHER SOURCES	6
CHEMICALS AND CHEMICAL PRODUCTS	PARTS AND MATERIALS	6
Nonclassifiable	MACHINERY	6
VEHICLES	TOOLS, INSTRUMENTS, AND EQUIPMENT	6
CONTAINERS, FURNITURE AND FIXTURES	TOOLS, INSTRUMENTS, AND EQUIPMENT	5
MACHINERY	Nonclassifiable	5
OTHER SOURCES	CONTAINERS, FURNITURE AND FIXTURES	5
OTHER SOURCES	STRUCTURES AND SURFACES	4
PARTS AND MATERIALS	PERSONS, PLANTS, ANIMALS, AND MINERALS	4
PERSONS, PLANTS, ANIMALS, AND MINERALS	STRUCTURES AND SURFACES	4
STRUCTURES AND SURFACES	CHEMICALS AND CHEMICAL PRODUCTS	4
TOOLS, INSTRUMENTS, AND EQUIPMENT	VEHICLES	4
VEHICLES	PERSONS, PLANTS, ANIMALS, AND MINERALS	4
CONTAINERS, FURNITURE AND FIXTURES	CONTAINERS, FURNITURE AND FIXTURES	3
Nonclassifiable	OTHER SOURCES	3
OTHER SOURCES	PERSONS, PLANTS, ANIMALS, AND MINERALS	3
PERSONS, PLANTS, ANIMALS, AND MINERALS	PARTS AND MATERIALS	3

source1_L1	source2_L1	n
PERSONS, PLANTS, ANIMALS, AND MINERALS	VEHICLES	3
TOOLS, INSTRUMENTS, AND EQUIPMENT	CHEMICALS AND CHEMICAL PRODUCTS	3
CHEMICALS AND CHEMICAL PRODUCTS	VEHICLES	2
CONTAINERS, FURNITURE AND FIXTURES	OTHER SOURCES	2
MACHINERY	CHEMICALS AND CHEMICAL PRODUCTS	2
OTHER SOURCES	CHEMICALS AND CHEMICAL PRODUCTS	2
PERSONS, PLANTS, ANIMALS, AND MINERALS	CONTAINERS, FURNITURE AND FIXTURES	2
VEHICLES	Nonclassifiable	2
CHEMICALS AND CHEMICAL PRODUCTS	Nonclassifiable	1
CONTAINERS, FURNITURE AND FIXTURES	CHEMICALS AND CHEMICAL PRODUCTS	1
CONTAINERS, FURNITURE AND FIXTURES	Nonclassifiable	1
CONTAINERS, FURNITURE AND FIXTURES	PERSONS, PLANTS, ANIMALS, AND MINERALS	1
Nonclassifiable	CHEMICALS AND CHEMICAL PRODUCTS	1
Nonclassifiable	CONTAINERS, FURNITURE AND FIXTURES	1
OTHER SOURCES	OTHER SOURCES	1
OTHER SOURCES	VEHICLES	1
PARTS AND MATERIALS	Nonclassifiable	1
VEHICLES	CHEMICALS AND CHEMICAL PRODUCTS	1

10.2 Main Source and Secondary source - Level 2

```
# show top 20 - the number of combination is 591
cons_v2 %>%
  filter(!is.na(source2_L1)) %>%
  count(source1_L2, source2_L2, sort = T) %>%
  top_n(20)
```

source1_L2	source2_L2	n
Ladders	Floors, walkways, ground surfaces	185
Other structural elements	Floors, walkways, ground surfaces	153
Structures other than buildings	Floors, walkways, ground surfaces	101
Fasteners, connectors, ropes, ties	Handtools—powered	54
Floors, walkways, ground surfaces	Environmental and elemental conditions	45
Building materials—solid elements	Material and personnel handling machinery	41

source1_L2	source2_L2	n
Other structural elements	Environmental and elemental conditions	39
Highway vehicles, motorized	Floors, walkways, ground surfaces	37
Ladders	Machine, tool, and electric parts	31
Floors, walkways, ground surfaces	Building materials—solid elements	30
Building materials—solid elements	Off-road and industrial vehicles—powered	29
Handtools—powered	Apparel and textiles	29
Building materials—solid elements	Construction, logging, and mining machinery	28
Floors, walkways, ground surfaces	Floors, walkways, ground surfaces	28
Ladders	Nonclassifiable	28
Ladders	Building materials—solid elements	26
Nonclassifiable	Handtools—powered	26
Material and personnel handling machinery	Floors, walkways, ground surfaces	25
Metal, woodworking, and special material machinery	Apparel and textiles	24
Material and personnel handling machinery	Other structural elements	23

10.3 Main Source and Secondary source - Level 3

```
cons_v2 %>%
  filter(!is.na(source2_L1)) %>%
  count(source1_L3, source2_L3, sort = T) %>%
  top_n(20)
```

source1_L3	source2_L3	n
Roofs	Floors, walkways, ground surfaces, unspecified	81
Ladders—movable	Floors, walkways, ground surfaces, unspecified	69
Scaffolds, staging	Floors, walkways, ground surfaces, unspecified	55
Fasteners	Striking and nailing handtools—powered	49
Ladders—movable	Floors	45
Floors, walkways, ground surfaces, unspecified	Weather and atmospheric conditions	27
Trucks—motorized freight hauling and utility	Floors, walkways, ground surfaces, unspecified	27
Roofs	Floors	25
Roofs	Weather and atmospheric conditions	23
Ladders, unspecified	Floors, walkways, ground surfaces, unspecified	22
Boring handtools—powered	Clothing and shoes	20

source1_L3	source2_L3	n
Flooding and other water sources	Other handtools—powered	19
Ladders—movable	Nonclassifiable	19
Nonclassifiable	Surfacing handtools—powered	19
Scaffolds, staging	Floors	18
Ladders—movable	Electric parts	17
Structural metal materials	Cranes	16
Roofs	Nonclassifiable	15
Ladders, unspecified	Electric parts	14
Nonclassifiable	Floors, walkways, ground surfaces, unspecified	14
Structural metal materials	Industrial vehicles, material hauling and transport—powered	14

11 Analysis By Part of Body

11.1 Part of Body - Level 1

```
cons_v2 %>%
  count(part_L1, sort = T)
```

part_L1	n
UPPER EXTREMITIES	2492
LOWER EXTREMITIES	1761
TRUNK	1219
MULTIPLE BODY PARTS	1145
HEAD	746
Nonclassifiable	666
BODY SYSTEMS	479
NECK, INCLUDING THROAT	55

11.2 Part of Body - Level 2

```
cons_v2 %>%
  count(part_L2, sort = T)
```

part_L2	n
Hand(s)	1808
Leg(s)	1107
Other multiple body parts	775
Nonclassifiable	666
BODY SYSTEMS	479
Cranial region, including skull	392
Chest, including ribs, internal organs	384
Arm(s)	363
Back, including spine, spinal cord	331
Foot (feet)	276
Pelvic region	268
Face	261
Ankle(s)	253
Wrist(s)	140
Multiple trunk locations	126
Upper and lower limb(s)	116
Head and trunk	113
Multiple lower extremities locations	107
Abdomen	101
Multiple upper extremities locations	101
Shoulder(s), including clavicle(s), scapula(e)	75
Head, unspecified	58
Multiple body parts, unspecified	58
Neck, except internal location of diseases or disorders	55
Multiple head locations	29
Head and neck	27
Hip(s) and leg(s)	24
Lower extremities, unspecified	18
Neck and back	16
Head, neck, and trunk	10
Trunk, unspecified	9

part_L2	n
Ear(s)	6
Shoulder(s) and back	6
Upper extremities, unspecified	5

11.3 Part of Body - Level 3

```
cons_v2 %>%
  count(part_L3, sort = T)
```

part_L3	n
Finger(s), fingernail(s)	1564
Multiple body parts, n.e.c.	774
Nonclassifiable	666
Leg(s), unspecified	510
BODY SYSTEMS	479
Chest, except internal location of diseases or disorders	377
Brain	325
Lower leg(s)	296
Ankle(s)	253
Back, including spine, spinal cord, unspecified	213
Arm(s), unspecified	199
Hand(s), unspecified	193
Thigh(s)	179
Hip(s)	153
Foot (feet), unspecified	152
Wrist(s)	140
Multiple trunk locations	126
Upper and lower limb(s)	116
Head and trunk	113
Abdomen, except internal location of diseases or disorders	100
Knee(s)	100
Pelvis	87
Forearm(s)	85
Lumbar region	83

part_L3	n
Face, unspecified	82
Shoulder(s), including clavicle(s), scapula(e)	75
Toes(s), toenail(s)	69
Eye(s)	59
Head, unspecified	58
Multiple body parts, unspecified	58
Skull	57
Neck, except internal location of diseases or disorders	55
Ankle(s) and leg(s)	46
Elbow(s)	38
Wrist(s) and arm(s)	37
Multiple face locations	33
Sole(s)	31
Jaw, chin	30
Multiple head locations	29
Hand(s) and arms(s)	28
Upper arm(s)	28
Foot (feet) and leg(s)	27
Head and neck	27
Hand(s), except finger(s)	24
Hip(s) and leg(s)	24
Foot (feet) and ankle(s)	23
Lower extremities, unspecified	18
Foot (feet), n.e.c.	16
Multiple leg locations	16
Neck and back	16
Hand(s) and finger(s)	15
Mouth	15
Multiple pelvic region locations	15
Cheek(s)	14
Coccygeal region	14
Forehead	14
Multiple upper extremities locations, n.e.c.	14
Shoulder(s) and arm(s)	13
Thoracic region	13
Hand(s), n.e.c.	12
Nose, nasal cavity	11

part_L3	n
Head, neck, and trunk	10
Scalp	10
Hand(s) and wrist(s)	9
Multiple arm locations	9
Multiple lower extremities locations, n.e.c.	9
Trunk, unspecified	9
Multiple foot (feet) locations	8
Heart	7
Ear(s)	6
Leg(s), n.e.c.	6
Shoulder(s) and back	6
Multiple back regions	5
Upper extremities, unspecified	5
Arm(s), n.e.c.	4
Buttock(s)	4
Groin	4
Pelvic region, unspecified	4
Face, n.e.c.	3
Sacral region	3
Multiple lower extremities locations, unspecified	2
External reproductive tract structures	1
Spleen	1
Whole body	1

12 Analysis By Nature

12.1 Nature - Level 1

```
cons_v2 %>%
  count(nature_L1, sort = T)
```

nature_L1	n
TRAUMATIC INJURIES AND DISORDERS	8535
DISEASES AND DISORDERS OF BODY SYSTEMS	18
SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS	5
EXPOSURES TO DISEASE—NO ILLNESS INCURRED	4
INFECTIOUS AND PARASITIC DISEASES	1

12.2 Nature - Level 2

```
cons_v2 %>%
  count(nature_L2, sort = T)
```

nature_L2	n
Traumatic injuries to bones, nerves, spinal cord	3117
Open wounds	2080
Other traumatic injuries and disorders	1257
Burns and corrosions	533
Traumatic injuries and disorders, unspecified	405
Intracranial injuries	325
Multiple traumatic injuries and disorders	318
Effects of environmental conditions	288
Traumatic injuries to muscles, tendons, ligaments, joints, etc.	126
Surface wounds and bruises	86
Circulatory system diseases	14
Symptoms	5
EXPOSURES TO DISEASE—NO ILLNESS INCURRED	4
Disorders of the skin and subcutaneous tissue	2
Respiratory system diseases	2
Bacterial diseases	1

12.3 Nature - Level 3

```
cons_v2 %>%
  count(nature_L3, sort = T)
```

nature_L3	n
Fractures	3099
Amputations, avulsions, enucleations	1348
Nonspecified injuries and disorders	846
Cuts, lacerations	554
Traumatic injuries and disorders, unspecified	405
Effects of heat and light	286
Electrical burns	281
Fractures and other injuries	270
Internal injuries to organs and blood vessels of the trunk	222
Heat (thermal) burns	214
Intracranial injuries, unspecified	206
Puncture wounds, except gunshot wounds	160
Electrocutions, electric shocks	116
Concussions	71
Bruises, contusions	68
Other poisoning, toxic, noxious, or allergenic effects	61
Dislocations	60
Sprains, strains, tears	43
Chemical burns and corrosions	30
Multiple types of intracranial injuries	22
Cerebral and other intracranial hemorrhages	20
Cuts and abrasions or bruises	16
Abrasions, scratches	15
Multiple traumatic injuries and disorders, n.e.c.	15
Hernias due to traumatic incidents	14
Ischemic heart disease, including heart attack	12
Open wounds, unspecified	12
Traumatic injuries to spinal cord	8
Other traumatic injuries and disorders, n.e.c.	7
Intracranial injuries and injuries to internal organs	6
Intracranial injuries, n.e.c.	6

nature_L3	n
Multiple traumatic injuries and disorders, unspecified	6
Traumatic injuries to muscles, tendons, ligaments, joints, etc., unspecified	6
Other burns	5
Traumatic injuries to nerves, except the spinal cord	5
EXPOSURES TO DISEASE—NO ILLNESS INCURRED	4
Burns and corrosions, unspecified	3
General symptoms	3
Gunshot wounds	3
Multiple types of open wounds	3
Other traumatic injuries and disorders, unspecified	3
Sprains and other injuries	3
Traumatic injuries to bones, nerves, spinal cord, unspecified	3
Burns and other injuries, except fractures	2
Effects of reduced temperature	2
Infections of the skin and subcutaneous tissue	2
Multiple traumatic injuries to bones, nerves, spinal cord	2
Traumatic injuries to muscles, tendons, ligaments, joints, etc., n.e.c.	2
Bacterial diseases, unspecified	1
Blisters	1
Cartilage fractures and tears	1
Cerebrovascular disease	1
Circulatory system diseases, n.e.c.	1
Dermatitis and reactions affecting the skin—acute	1
Drownings	1
Multiple surface wounds and bruises	1
Pneumonia, influenza	1
Respiratory system diseases, unspecified	1
Surface wounds and bruises, unspecified	1
Symptoms involving cardiovascular system	1
Symptoms involving respiratory system and chest	1

13 Part of Body and Nature

13.1 Part of Body and Nature - Level 1

```
cons_v2 %>%  
  count(part_L1 , nature_L1, sort = T)
```

part_L1	nature_L1	n
UPPER EXTREMITIES	TRAUMATIC INJURIES AND DISORDERS	2491
LOWER EXTREMITIES	TRAUMATIC INJURIES AND DISORDERS	1756
TRUNK	TRAUMATIC INJURIES AND DISORDERS	1211
MULTIPLE BODY PARTS	TRAUMATIC INJURIES AND DISORDERS	1145
HEAD	TRAUMATIC INJURIES AND DISORDERS	746
Nonclassifiable	TRAUMATIC INJURIES AND DISORDERS	666
BODY SYSTEMS	TRAUMATIC INJURIES AND DISORDERS	465
NECK, INCLUDING THROAT	TRAUMATIC INJURIES AND DISORDERS	55
BODY SYSTEMS	DISEASES AND DISORDERS OF BODY SYSTEMS	9
TRUNK	DISEASES AND DISORDERS OF BODY SYSTEMS	7
BODY SYSTEMS	SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS	4
LOWER EXTREMITIES	EXPOSURES TO DISEASE—NO ILLNESS INCURRED	3
LOWER EXTREMITIES	DISEASES AND DISORDERS OF BODY SYSTEMS	2
BODY SYSTEMS	INFECTIOUS AND PARASITIC DISEASES	1
TRUNK	SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS	1
UPPER EXTREMITIES	EXPOSURES TO DISEASE—NO ILLNESS INCURRED	1

13.2 Part of Body and Nature - Level 2

```
# part L2 and nature L1  
cons_v2 %>%  
  count(part_L2 , nature_L1, sort = T)
```

part_L2	nature_L1	n
Hand(s)	TRAUMATIC INJURIES AND DISORDERS	1807
Leg(s)	TRAUMATIC INJURIES AND DISORDERS	1103
Other multiple body parts	TRAUMATIC INJURIES AND DISORDERS	775
Nonclassifiable	TRAUMATIC INJURIES AND DISORDERS	666
BODY SYSTEMS	TRAUMATIC INJURIES AND DISORDERS	465
Cranial region, including skull	TRAUMATIC INJURIES AND DISORDERS	392
Chest, including ribs, internal organs	TRAUMATIC INJURIES AND DISORDERS	376
Arm(s)	TRAUMATIC INJURIES AND DISORDERS	363
Back, including spine, spinal cord	TRAUMATIC INJURIES AND DISORDERS	331
Foot (feet)	TRAUMATIC INJURIES AND DISORDERS	276
Pelvic region	TRAUMATIC INJURIES AND DISORDERS	268
Face	TRAUMATIC INJURIES AND DISORDERS	261
Ankle(s)	TRAUMATIC INJURIES AND DISORDERS	252
Wrist(s)	TRAUMATIC INJURIES AND DISORDERS	140
Multiple trunk locations	TRAUMATIC INJURIES AND DISORDERS	126
Upper and lower limb(s)	TRAUMATIC INJURIES AND DISORDERS	116
Head and trunk	TRAUMATIC INJURIES AND DISORDERS	113
Multiple lower extremities locations	TRAUMATIC INJURIES AND DISORDERS	107
Abdomen	TRAUMATIC INJURIES AND DISORDERS	101
Multiple upper extremities locations	TRAUMATIC INJURIES AND DISORDERS	101
Shoulder(s), including clavicle(s), scapula(e)	TRAUMATIC INJURIES AND DISORDERS	75
Head, unspecified	TRAUMATIC INJURIES AND DISORDERS	58
Multiple body parts, unspecified	TRAUMATIC INJURIES AND DISORDERS	58
Neck, except internal location of diseases or disorders	TRAUMATIC INJURIES AND DISORDERS	55
Multiple head locations	TRAUMATIC INJURIES AND DISORDERS	29
Head and neck	TRAUMATIC INJURIES AND DISORDERS	27
Hip(s) and leg(s)	TRAUMATIC INJURIES AND DISORDERS	24
Lower extremities, unspecified	TRAUMATIC INJURIES AND DISORDERS	18
Neck and back	TRAUMATIC INJURIES AND DISORDERS	16
Head, neck, and trunk	TRAUMATIC INJURIES AND DISORDERS	10
BODY SYSTEMS	DISEASES AND DISORDERS OF BODY SYSTEMS	9
Trunk, unspecified	TRAUMATIC INJURIES AND DISORDERS	9
Chest, including ribs, internal organs	DISEASES AND DISORDERS OF BODY SYSTEMS	7
Ear(s)	TRAUMATIC INJURIES AND DISORDERS	6
Shoulder(s) and back	TRAUMATIC INJURIES AND DISORDERS	6
Upper extremities, unspecified	TRAUMATIC INJURIES AND DISORDERS	5
BODY SYSTEMS	SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS	4

part_L2	nature_L1	n
Leg(s)	DISEASES AND DISORDERS OF BODY SYSTEMS	2
Leg(s)	EXPOSURES TO DISEASE—NO ILLNESS INCURRED	2
Ankle(s)	EXPOSURES TO DISEASE—NO ILLNESS INCURRED	1
BODY SYSTEMS	INFECTIOUS AND PARASITIC DISEASES	1
Chest, including ribs, internal organs	SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS	1
Hand(s)	EXPOSURES TO DISEASE—NO ILLNESS INCURRED	1

part L2 and nature L2

cons_v2 %>%

count(part_L2 , nature_L2, sort = T)

part_L2	nature_L2	n
Hand(s)	Open wounds	1455
Leg(s)	Traumatic injuries to bones, nerves, spinal cord	763
Nonclassifiable	Traumatic injuries and disorders, unspecified	405
Other multiple body parts	Traumatic injuries to bones, nerves, spinal cord	388
Cranial region, including skull	Intracranial injuries	325
BODY SYSTEMS	Effects of environmental conditions	286
Pelvic region	Traumatic injuries to bones, nerves, spinal cord	222
Ankle(s)	Traumatic injuries to bones, nerves, spinal cord	210
Chest, including ribs, internal organs	Traumatic injuries to bones, nerves, spinal cord	194
BODY SYSTEMS	Other traumatic injuries and disorders	178
Back, including spine, spinal cord	Traumatic injuries to bones, nerves, spinal cord	171
Arm(s)	Traumatic injuries to bones, nerves, spinal cord	169
Leg(s)	Open wounds	159
Other multiple body parts	Burns and corrosions	149
Chest, including ribs, internal organs	Other traumatic injuries and disorders	147
Foot (feet)	Traumatic injuries to bones, nerves, spinal cord	137
Hand(s)	Other traumatic injuries and disorders	128
Back, including spine, spinal cord	Other traumatic injuries and disorders	123
Other multiple body parts	Multiple traumatic injuries and disorders	121
Leg(s)	Other traumatic injuries and disorders	117
Hand(s)	Traumatic injuries to bones, nerves, spinal cord	111
Wrist(s)	Traumatic injuries to bones, nerves, spinal cord	108
Arm(s)	Open wounds	104

part_L2	nature_L2	n
Nonclassifiable	Burns and corrosions	102
Nonclassifiable	Traumatic injuries to bones, nerves, spinal cord	99
Other multiple body parts	Other traumatic injuries and disorders	96
Face	Open wounds	91
Face	Traumatic injuries to bones, nerves, spinal cord	87
Hand(s)	Burns and corrosions	82
Multiple lower extremities locations	Traumatic injuries to bones, nerves, spinal cord	80
Abdomen	Other traumatic injuries and disorders	74
Foot (feet)	Open wounds	72
Upper and lower limb(s)	Traumatic injuries to bones, nerves, spinal cord	67
Multiple trunk locations	Traumatic injuries to bones, nerves, spinal cord	65
Cranial region, including skull	Traumatic injuries to bones, nerves, spinal cord	55
Face	Other traumatic injuries and disorders	50
Foot (feet)	Other traumatic injuries and disorders	46
Multiple upper extremities locations	Traumatic injuries to bones, nerves, spinal cord	43
Head and trunk	Multiple traumatic injuries and disorders	40
Head and trunk	Other traumatic injuries and disorders	40
Arm(s)	Other traumatic injuries and disorders	39
Arm(s)	Burns and corrosions	38
Multiple trunk locations	Other traumatic injuries and disorders	37
Head, unspecified	Open wounds	33
Neck, except internal location of diseases or disorders	Traumatic injuries to bones, nerves, spinal cord	31
Shoulder(s), including clavicle(s), scapula(e)	Traumatic injuries to bones, nerves, spinal cord	29
Face	Burns and corrosions	27
Multiple upper extremities locations	Burns and corrosions	25
Pelvic region	Other traumatic injuries and disorders	25
Head and trunk	Traumatic injuries to bones, nerves, spinal cord	22
Nonclassifiable	Open wounds	22
Ankle(s)	Other traumatic injuries and disorders	21
Leg(s)	Burns and corrosions	21
Leg(s)	Surface wounds and bruises	19
Leg(s)	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	19
Multiple body parts, unspecified	Traumatic injuries to bones, nerves, spinal cord	19
Upper and lower limb(s)	Burns and corrosions	19
Wrist(s)	Open wounds	19
Back, including spine, spinal cord	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	18
Chest, including ribs, internal organs	Open wounds	18

part_L2	nature_L2	n
Hand(s)	Multiple traumatic injuries and disorders	18
Multiple body parts, unspecified	Multiple traumatic injuries and disorders	18
Multiple trunk locations	Multiple traumatic injuries and disorders	18
Shoulder(s), including clavicle(s), scapula(e)	Other traumatic injuries and disorders	18
Shoulder(s), including clavicle(s), scapula(e)	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	17
Upper and lower limb(s)	Multiple traumatic injuries and disorders	15
Abdomen	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	14
Ankle(s)	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	13
Head and neck	Other traumatic injuries and disorders	13
Head, unspecified	Other traumatic injuries and disorders	13
Hip(s) and leg(s)	Traumatic injuries to bones, nerves, spinal cord	13
Multiple lower extremities locations	Multiple traumatic injuries and disorders	13
Cranial region, including skull	Open wounds	12
Multiple body parts, unspecified	Burns and corrosions	12
Neck, except internal location of diseases or disorders	Open wounds	12
Nonclassifiable	Multiple traumatic injuries and disorders	12
Nonclassifiable	Other traumatic injuries and disorders	12
Foot (feet)	Burns and corrosions	11
Lower extremities, unspecified	Traumatic injuries to bones, nerves, spinal cord	11
Multiple upper extremities locations	Multiple traumatic injuries and disorders	11
Abdomen	Open wounds	10
Multiple upper extremities locations	Open wounds	10
Multiple upper extremities locations	Other traumatic injuries and disorders	10
Nonclassifiable	Surface wounds and bruises	10
Other multiple body parts	Open wounds	10
Back, including spine, spinal cord	Surface wounds and bruises	9
Other multiple body parts	Surface wounds and bruises	9
Shoulder(s), including clavicle(s), scapula(e)	Open wounds	9
Upper and lower limb(s)	Other traumatic injuries and disorders	9
BODY SYSTEMS	Circulatory system diseases	8
Hand(s)	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	8
Head and neck	Burns and corrosions	8
Multiple head locations	Open wounds	8
Multiple lower extremities locations	Other traumatic injuries and disorders	8
Neck, except internal location of diseases or disorders	Other traumatic injuries and disorders	8
Pelvic region	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	8
Head and trunk	Burns and corrosions	7

part_L2	nature_L2	n
Head, unspecified	Traumatic injuries to bones, nerves, spinal cord	7
Multiple body parts, unspecified	Other traumatic injuries and disorders	7
Neck and back	Other traumatic injuries and disorders	7
Neck and back	Traumatic injuries to bones, nerves, spinal cord	7
Pelvic region	Open wounds	7
Wrist(s)	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	7
Back, including spine, spinal cord	Burns and corrosions	6
Chest, including ribs, internal organs	Circulatory system diseases	6
Chest, including ribs, internal organs	Surface wounds and bruises	6
Hip(s) and leg(s)	Other traumatic injuries and disorders	6
Multiple head locations	Multiple traumatic injuries and disorders	6
Multiple head locations	Other traumatic injuries and disorders	6
Wrist(s)	Other traumatic injuries and disorders	6
Ankle(s)	Open wounds	5
Arm(s)	Surface wounds and bruises	5
Leg(s)	Multiple traumatic injuries and disorders	5
Arm(s)	Multiple traumatic injuries and disorders	4
Arm(s)	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	4
BODY SYSTEMS	Symptoms	4
Chest, including ribs, internal organs	Multiple traumatic injuries and disorders	4
Chest, including ribs, internal organs	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	4
Foot (feet)	Multiple traumatic injuries and disorders	4
Hand(s)	Surface wounds and bruises	4
Head and neck	Multiple traumatic injuries and disorders	4
Hip(s) and leg(s)	Multiple traumatic injuries and disorders	4
Multiple head locations	Burns and corrosions	4
Multiple head locations	Traumatic injuries to bones, nerves, spinal cord	4
Trunk, unspecified	Other traumatic injuries and disorders	4
Ankle(s)	Multiple traumatic injuries and disorders	3
Chest, including ribs, internal organs	Burns and corrosions	3
Ear(s)	Open wounds	3
Face	Multiple traumatic injuries and disorders	3
Face	Surface wounds and bruises	3
Foot (feet)	Surface wounds and bruises	3
Foot (feet)	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	3
Head and trunk	Open wounds	3
Head, neck, and trunk	Multiple traumatic injuries and disorders	3

part_L2	nature_L2	n
Head, neck, and trunk	Open wounds	3
Head, unspecified	Surface wounds and bruises	3
Lower extremities, unspecified	Other traumatic injuries and disorders	3
Multiple lower extremities locations	Burns and corrosions	3
Multiple trunk locations	Burns and corrosions	3
Nonclassifiable	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	3
Pelvic region	Multiple traumatic injuries and disorders	3
Pelvic region	Surface wounds and bruises	3
Upper and lower limb(s)	Surface wounds and bruises	3
Abdomen	Surface wounds and bruises	2
Back, including spine, spinal cord	Multiple traumatic injuries and disorders	2
Back, including spine, spinal cord	Open wounds	2
Ear(s)	Other traumatic injuries and disorders	2
Head and neck	Open wounds	2
Head, neck, and trunk	Other traumatic injuries and disorders	2
Head, neck, and trunk	Traumatic injuries to bones, nerves, spinal cord	2
Head, unspecified	Multiple traumatic injuries and disorders	2
Leg(s)	Disorders of the skin and subcutaneous tissue	2
Leg(s)	EXPOSURES TO DISEASE—NO ILLNESS INCURRED	2
Lower extremities, unspecified	Burns and corrosions	2
Multiple lower extremities locations	Open wounds	2
Multiple upper extremities locations	Surface wounds and bruises	2
Neck and back	Multiple traumatic injuries and disorders	2
Neck, except internal location of diseases or disorders	Burns and corrosions	2
Neck, except internal location of diseases or disorders	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	2
Other multiple body parts	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	2
Shoulder(s) and back	Burns and corrosions	2
Shoulder(s) and back	Traumatic injuries to bones, nerves, spinal cord	2
Trunk, unspecified	Burns and corrosions	2
Trunk, unspecified	Open wounds	2
Upper and lower limb(s)	Open wounds	2
Abdomen	Burns and corrosions	1
Ankle(s)	EXPOSURES TO DISEASE—NO ILLNESS INCURRED	1
BODY SYSTEMS	Bacterial diseases	1
BODY SYSTEMS	Burns and corrosions	1
BODY SYSTEMS	Respiratory system diseases	1
Chest, including ribs, internal organs	Respiratory system diseases	1

part_L2	nature_L2	n
Chest, including ribs, internal organs	Symptoms	1
Ear(s)	Burns and corrosions	1
Hand(s)	Effects of environmental conditions	1
Hand(s)	EXPOSURES TO DISEASE—NO ILLNESS INCURRED	1
Head and trunk	Surface wounds and bruises	1
Hip(s) and leg(s)	Open wounds	1
Lower extremities, unspecified	Multiple traumatic injuries and disorders	1
Lower extremities, unspecified	Open wounds	1
Multiple body parts, unspecified	Open wounds	1
Multiple body parts, unspecified	Surface wounds and bruises	1
Multiple head locations	Surface wounds and bruises	1
Multiple lower extremities locations	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	1
Multiple trunk locations	Open wounds	1
Multiple trunk locations	Surface wounds and bruises	1
Multiple trunk locations	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	1
Nonclassifiable	Effects of environmental conditions	1
Shoulder(s) and back	Other traumatic injuries and disorders	1
Shoulder(s) and back	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	1
Shoulder(s), including clavicle(s), scapula(e)	Burns and corrosions	1
Shoulder(s), including clavicle(s), scapula(e)	Multiple traumatic injuries and disorders	1
Trunk, unspecified	Surface wounds and bruises	1
Upper and lower limb(s)	Traumatic injuries to muscles, tendons, ligaments, joints, etc.	1
Upper extremities, unspecified	Burns and corrosions	1
Upper extremities, unspecified	Multiple traumatic injuries and disorders	1
Upper extremities, unspecified	Open wounds	1
Upper extremities, unspecified	Other traumatic injuries and disorders	1
Upper extremities, unspecified	Traumatic injuries to bones, nerves, spinal cord	1

13.3 Part of Body and Nature - Level 3

```
cons_v2 %>%
  count(part_L3 , nature_L3, sort = T)
```

part_L3	nature_L3	n
Finger(s), fingernail(s)	Amputations, avulsions, enucleations	1231
Nonclassifiable	Traumatic injuries and disorders, unspecified	405
Multiple body parts, n.e.c.	Fractures	387
Leg(s), unspecified	Fractures	365
BODY SYSTEMS	Effects of heat and light	286
Lower leg(s)	Fractures	233
Ankle(s)	Fractures	210
Brain	Intracranial injuries, unspecified	206
Chest, except internal location of diseases or disorders	Fractures	194
Chest, except internal location of diseases or disorders	Internal injuries to organs and blood vessels of the trunk	134
Hip(s)	Fractures	126
BODY SYSTEMS	Electrocutions, electric shocks	116
Thigh(s)	Fractures	115
Finger(s), fingernail(s)	Cuts, lacerations	113
Wrist(s)	Fractures	108
Multiple body parts, n.e.c.	Fractures and other injuries	107
Arm(s), unspecified	Fractures	104
Nonclassifiable	Fractures	97
Multiple body parts, n.e.c.	Nonspecified injuries and disorders	96
Back, including spine, spinal cord, unspecified	Nonspecified injuries and disorders	94
Back, including spine, spinal cord, unspecified	Fractures	89
Foot (feet), unspecified	Fractures	85
Finger(s), fingernail(s)	Nonspecified injuries and disorders	83
Pelvis	Fractures	83
Finger(s), fingernail(s)	Fractures	78
Multiple body parts, n.e.c.	Electrical burns	73
Brain	Concussions	71
Multiple body parts, n.e.c.	Heat (thermal) burns	71
Upper and lower limb(s)	Fractures	67
Abdomen, except internal location of diseases or disorders	Internal injuries to organs and blood vessels of the trunk	66
Leg(s), unspecified	Nonspecified injuries and disorders	65
Multiple trunk locations	Fractures	64
Nonclassifiable	Electrical burns	59
BODY SYSTEMS	Other poisoning, toxic, noxious, or allergenic effects	55
Skull	Fractures	55
Hand(s), unspecified	Electrical burns	49
Lumbar region	Fractures	46

part_L3	nature_L3	n
Hand(s), unspecified	Cuts, lacerations	43
Head and trunk	Nonspecified injuries and disorders	40
Knee(s)	Fractures	39
Nonclassifiable	Heat (thermal) burns	36
Ankle(s) and leg(s)	Fractures	35
Arm(s), unspecified	Cuts, lacerations	35
Forearm(s)	Cuts, lacerations	35
Hand(s), unspecified	Nonspecified injuries and disorders	35
Head and trunk	Fractures and other injuries	32
Thigh(s)	Cuts, lacerations	30
Toes(s), toenail(s)	Amputations, avulsions, enucleations	30
Neck, except internal location of diseases or disorders	Fractures	29
Shoulder(s), including clavicle(s), scapula(e)	Fractures	29
Foot (feet), unspecified	Nonspecified injuries and disorders	28
Hand(s), unspecified	Fractures	28
Head, unspecified	Cuts, lacerations	28
Leg(s), unspecified	Cuts, lacerations	28
Wrist(s) and arm(s)	Fractures	27
Elbow(s)	Fractures	26
Lumbar region	Nonspecified injuries and disorders	26
Sole(s)	Fractures	25
Arm(s), unspecified	Nonspecified injuries and disorders	24
Jaw, chin	Fractures	24
Forearm(s)	Fractures	23
Brain	Multiple types of intracranial injuries	22
Eye(s)	Nonspecified injuries and disorders	22
Head and trunk	Fractures	22
Ankle(s)	Nonspecified injuries and disorders	21
Face, unspecified	Cuts, lacerations	21
Foot (feet) and leg(s)	Fractures	21
Brain	Cerebral and other intracranial hemorrhages	20
Finger(s), fingernail(s)	Puncture wounds, except gunshot wounds	20
Foot (feet) and ankle(s)	Fractures	20
Knee(s)	Nonspecified injuries and disorders	20
Multiple trunk locations	Internal injuries to organs and blood vessels of the trunk	20
Face, unspecified	Fractures	19
Lower leg(s)	Nonspecified injuries and disorders	19

part_L3	nature_L3	n
Multiple body parts, unspecified	Fractures	19
Toes(s), toenail(s)	Fractures	19
Wrist(s)	Cuts, lacerations	19
Face, unspecified	Nonspecified injuries and disorders	18
Multiple trunk locations	Fractures and other injuries	18
Shoulder(s), including clavicle(s), scapula(e)	Nonspecified injuries and disorders	18
Multiple face locations	Fractures	17
Multiple trunk locations	Nonspecified injuries and disorders	17
Hip(s)	Nonspecified injuries and disorders	16
Lower leg(s)	Amputations, avulsions, enucleations	16
Lower leg(s)	Cuts, lacerations	16
Knee(s)	Puncture wounds, except gunshot wounds	15
Leg(s), unspecified	Puncture wounds, except gunshot wounds	15
Shoulder(s), including clavicle(s), scapula(e)	Dislocations	15
Abdomen, except internal location of diseases or disorders	Hernias due to traumatic incidents	14
Hand(s), unspecified	Puncture wounds, except gunshot wounds	14
Thigh(s)	Puncture wounds, except gunshot wounds	14
Toes(s), toenail(s)	Nonspecified injuries and disorders	14
Upper and lower limb(s)	Fractures and other injuries	14
Arm(s), unspecified	Electrical burns	13
Chest, except internal location of diseases or disorders	Cuts, lacerations	13
Chest, except internal location of diseases or disorders	Nonspecified injuries and disorders	13
Head and neck	Nonspecified injuries and disorders	13
Head, unspecified	Nonspecified injuries and disorders	13
Hip(s) and leg(s)	Fractures	13
Leg(s), unspecified	Heat (thermal) burns	13
Multiple body parts, unspecified	Fractures and other injuries	13
Upper and lower limb(s)	Electrical burns	13
Ankle(s)	Dislocations	12
Finger(s), fingernail(s)	Fractures and other injuries	12
Multiple pelvic region locations	Fractures	12
Upper arm(s)	Cuts, lacerations	12
Eye(s)	Cuts, lacerations	11
Face, unspecified	Heat (thermal) burns	11
Finger(s), fingernail(s)	Electrical burns	11
Multiple leg locations	Fractures	11
Thoracic region	Fractures	11

part_L3	nature_L3	n
Coccygeal region	Fractures	10
Face, unspecified	Electrical burns	10
Foot (feet), unspecified	Puncture wounds, except gunshot wounds	10
Forehead	Cuts, lacerations	10
Hand(s), except finger(s)	Cuts, lacerations	10
Lower extremities, unspecified	Fractures	10
Multiple body parts, n.e.c.	Cuts, lacerations	10
Nonclassifiable	Nonspecified injuries and disorders	10
Scalp	Cuts, lacerations	10
Abdomen, except internal location of diseases or disorders	Puncture wounds, except gunshot wounds	9
Eye(s)	Puncture wounds, except gunshot wounds	9
Foot (feet), n.e.c.	Amputations, avulsions, enucleations	9
Foot (feet), unspecified	Cuts, lacerations	9
Hand(s) and arms(s)	Heat (thermal) burns	9
Multiple body parts, n.e.c.	Bruises, contusions	9
Neck, except internal location of diseases or disorders	Cuts, lacerations	9
Nose, nasal cavity	Fractures	9
Thigh(s)	Nonspecified injuries and disorders	9
Upper and lower limb(s)	Nonspecified injuries and disorders	9
Upper arm(s)	Fractures	9
Hand(s), unspecified	Heat (thermal) burns	8
Knee(s)	Cuts, lacerations	8
Multiple body parts, unspecified	Electrical burns	8
Multiple head locations	Cuts, lacerations	8
Neck, except internal location of diseases or disorders	Nonspecified injuries and disorders	8
Nonclassifiable	Amputations, avulsions, enucleations	8
Nonclassifiable	Bruises, contusions	8
Nonclassifiable	Puncture wounds, except gunshot wounds	8
Shoulder(s), including clavicle(s), scapula(e)	Cuts, lacerations	8
Abdomen, except internal location of diseases or disorders	Nonspecified injuries and disorders	7
Ankle(s) and leg(s)	Fractures and other injuries	7
Arm(s), unspecified	Heat (thermal) burns	7
Back, including spine, spinal cord, unspecified	Dislocations	7
Back, including spine, spinal cord, unspecified	Traumatic injuries to spinal cord	7
Forearm(s)	Nonspecified injuries and disorders	7
Hand(s) and arms(s)	Fractures	7
Hand(s), n.e.c.	Amputations, avulsions, enucleations	7

part_L3	nature_L3	n
Head, unspecified	Fractures	7
Hip(s)	Dislocations	7
Knee(s)	Sprains, strains, tears	7
Multiple arm locations	Fractures	7
Multiple body parts, unspecified	Nonspecified injuries and disorders	7
Neck and back	Fractures	7
Neck and back	Nonspecified injuries and disorders	7
BODY SYSTEMS	Ischemic heart disease, including heart attack	6
Brain	Intracranial injuries, n.e.c.	6
Cheek(s)	Fractures	6
Chest, except internal location of diseases or disorders	Bruises, contusions	6
Elbow(s)	Nonspecified injuries and disorders	6
Eye(s)	Fractures	6
Forearm(s)	Heat (thermal) burns	6
Hand(s) and arms(s)	Electrical burns	6
Head and neck	Heat (thermal) burns	6
Head and trunk	Intracranial injuries and injuries to internal organs	6
Heart	Ischemic heart disease, including heart attack	6
Hip(s) and leg(s)	Nonspecified injuries and disorders	6
Leg(s), unspecified	Amputations, avulsions, enucleations	6
Leg(s), unspecified	Bruises, contusions	6
Mouth	Amputations, avulsions, enucleations	6
Multiple body parts, n.e.c.	Cuts and abrasions or bruises	6
Multiple head locations	Nonspecified injuries and disorders	6
Nonclassifiable	Fractures and other injuries	6
Upper and lower limb(s)	Heat (thermal) burns	6
Wrist(s)	Nonspecified injuries and disorders	6
Cheek(s)	Cuts, lacerations	5
Chest, except internal location of diseases or disorders	Puncture wounds, except gunshot wounds	5
Eye(s)	Open wounds, unspecified	5
Finger(s), fingernail(s)	Other poisoning, toxic, noxious, or allergenic effects	5
Hand(s), except finger(s)	Puncture wounds, except gunshot wounds	5
Hand(s), unspecified	Amputations, avulsions, enucleations	5
Leg(s), n.e.c.	Amputations, avulsions, enucleations	5
Mouth	Fractures	5
Multiple body parts, n.e.c.	Multiple traumatic injuries and disorders, n.e.c.	5
Multiple face locations	Cuts, lacerations	5

part_L3	nature_L3	n
Multiple upper extremities locations, n.e.c.	Fractures	5
Nonclassifiable	Chemical burns and corrosions	5
Nonclassifiable	Cuts, lacerations	5
Wrist(s)	Dislocations	5
Wrist(s) and arm(s)	Cuts, lacerations	5
Wrist(s) and arm(s)	Fractures and other injuries	5
Ankle(s)	Cuts, lacerations	4
Arm(s), unspecified	Amputations, avulsions, enucleations	4
Back, including spine, spinal cord, unspecified	Bruises, contusions	4
Back, including spine, spinal cord, unspecified	Heat (thermal) burns	4
Back, including spine, spinal cord, unspecified	Sprains, strains, tears	4
BODY SYSTEMS	Nonspecified injuries and disorders	4
Chest, except internal location of diseases or disorders	Fractures and other injuries	4
Chest, except internal location of diseases or disorders	Sprains, strains, tears	4
Eye(s)	Amputations, avulsions, enucleations	4
Foot (feet), n.e.c.	Fractures	4
Foot (feet), unspecified	Amputations, avulsions, enucleations	4
Forearm(s)	Puncture wounds, except gunshot wounds	4
Head and neck	Fractures and other injuries	4
Head and trunk	Heat (thermal) burns	4
Hip(s) and leg(s)	Fractures and other injuries	4
Multiple body parts, unspecified	Heat (thermal) burns	4
Multiple face locations	Nonspecified injuries and disorders	4
Multiple foot (feet) locations	Fractures	4
Multiple head locations	Fractures	4
Multiple head locations	Fractures and other injuries	4
Multiple lower extremities locations, n.e.c.	Fractures	4
Shoulder(s) and arm(s)	Fractures	4
Ankle(s)	Fractures and other injuries	3
Ankle(s) and leg(s)	Nonspecified injuries and disorders	3
Arm(s), unspecified	Chemical burns and corrosions	3
BODY SYSTEMS	General symptoms	3
Buttock(s)	Puncture wounds, except gunshot wounds	3
Elbow(s)	Cuts, lacerations	3
Finger(s), fingernail(s)	Dislocations	3
Finger(s), fingernail(s)	Sprains, strains, tears	3
Foot (feet), unspecified	Bruises, contusions	3

part_L3	nature_L3	n
Foot (feet), unspecified	Chemical burns and corrosions	3
Foot (feet), unspecified	Electrical burns	3
Foot (feet), unspecified	Fractures and other injuries	3
Forearm(s)	Electrical burns	3
Hand(s) and arms(s)	Nonspecified injuries and disorders	3
Hand(s) and finger(s)	Cuts, lacerations	3
Hand(s) and finger(s)	Fractures	3
Hand(s), except finger(s)	Electrical burns	3
Head and trunk	Cuts, lacerations	3
Head and trunk	Electrical burns	3
Head, neck, and trunk	Fractures and other injuries	3
Head, unspecified	Bruises, contusions	3
Head, unspecified	Puncture wounds, except gunshot wounds	3
Jaw, chin	Cuts, lacerations	3
Knee(s)	Bruises, contusions	3
Knee(s)	Dislocations	3
Leg(s), unspecified	Chemical burns and corrosions	3
Lower extremities, unspecified	Nonspecified injuries and disorders	3
Lumbar region	Bruises, contusions	3
Lumbar region	Dislocations	3
Multiple body parts, n.e.c.	Chemical burns and corrosions	3
Multiple body parts, unspecified	Multiple traumatic injuries and disorders, unspecified	3
Multiple face locations	Fractures and other injuries	3
Multiple head locations	Electrical burns	3
Multiple lower extremities locations, n.e.c.	Fractures and other injuries	3
Neck, except internal location of diseases or disorders	Puncture wounds, except gunshot wounds	3
Nonclassifiable	Cuts and abrasions or bruises	3
Pelvic region, unspecified	Nonspecified injuries and disorders	3
Pelvis	Nonspecified injuries and disorders	3
Sacral region	Fractures	3
Shoulder(s) and arm(s)	Cuts, lacerations	3
Shoulder(s) and arm(s)	Nonspecified injuries and disorders	3
Sole(s)	Nonspecified injuries and disorders	3
Thigh(s)	Bruises, contusions	3
Thigh(s)	Sprains, strains, tears	3
Toes(s), toenail(s)	Cuts, lacerations	3
Trunk, unspecified	Nonspecified injuries and disorders	3

part_L3	nature_L3	n
Abdomen, except internal location of diseases or disorders	Bruises, contusions	2
Arm(s), n.e.c.	Amputations, avulsions, enucleations	2
Arm(s), unspecified	Abrasions, scratches	2
Arm(s), unspecified	Fractures and other injuries	2
Arm(s), unspecified	Puncture wounds, except gunshot wounds	2
Chest, except internal location of diseases or disorders	Heat (thermal) burns	2
Coccygeal region	Nonspecified injuries and disorders	2
Ear(s)	Amputations, avulsions, enucleations	2
Face, unspecified	Chemical burns and corrosions	2
Finger(s), fingernail(s)	Multiple traumatic injuries and disorders, n.e.c.	2
Foot (feet) and ankle(s)	Nonspecified injuries and disorders	2
Foot (feet) and leg(s)	Nonspecified injuries and disorders	2
Foot (feet), unspecified	Heat (thermal) burns	2
Forearm(s)	Amputations, avulsions, enucleations	2
Hand(s) and finger(s)	Electrical burns	2
Hand(s) and wrist(s)	Cuts, lacerations	2
Hand(s) and wrist(s)	Electrical burns	2
Hand(s) and wrist(s)	Nonspecified injuries and disorders	2
Hand(s), except finger(s)	Fractures	2
Hand(s), except finger(s)	Nonspecified injuries and disorders	2
Hand(s), n.e.c.	Heat (thermal) burns	2
Hand(s), n.e.c.	Open wounds, unspecified	2
Hand(s), unspecified	Fractures and other injuries	2
Hand(s), unspecified	Other burns	2
Head and neck	Cuts, lacerations	2
Head and neck	Electrical burns	2
Head and trunk	Multiple traumatic injuries and disorders, n.e.c.	2
Head, neck, and trunk	Cuts, lacerations	2
Head, neck, and trunk	Fractures	2
Head, neck, and trunk	Nonspecified injuries and disorders	2
Head, unspecified	Cuts and abrasions or bruises	2
Head, unspecified	Open wounds, unspecified	2
Hip(s)	Bruises, contusions	2
Jaw, chin	Nonspecified injuries and disorders	2
Leg(s), unspecified	Electrical burns	2
Lower extremities, unspecified	Chemical burns and corrosions	2
Lower leg(s)	Bruises, contusions	2

part_L3	nature_L3	n
Lower leg(s)	Sprains, strains, tears	2
Lumbar region	Sprains, strains, tears	2
Mouth	Cuts, lacerations	2
Multiple arm locations	Cuts, lacerations	2
Multiple back regions	Fractures	2
Multiple body parts, n.e.c.	Multiple traumatic injuries and disorders, unspecified	2
Multiple body parts, n.e.c.	Sprains, strains, tears	2
Multiple pelvic region locations	Fractures and other injuries	2
Multiple trunk locations	Heat (thermal) burns	2
Multiple upper extremities locations, n.e.c.	Electrical burns	2
Multiple upper extremities locations, n.e.c.	Fractures and other injuries	2
Multiple upper extremities locations, n.e.c.	Heat (thermal) burns	2
Multiple upper extremities locations, n.e.c.	Nonspecified injuries and disorders	2
Neck, except internal location of diseases or disorders	Sprains, strains, tears	2
Neck, except internal location of diseases or disorders	Traumatic injuries to nerves, except the spinal cord	2
Nonclassifiable	Other traumatic injuries and disorders, unspecified	2
Nose, nasal cavity	Cuts, lacerations	2
Shoulder(s) and back	Fractures	2
Shoulder(s) and back	Heat (thermal) burns	2
Shoulder(s), including clavicle(s), scapula(e)	Sprains, strains, tears	2
Skull	Puncture wounds, except gunshot wounds	2
Sole(s)	Puncture wounds, except gunshot wounds	2
Thigh(s)	Cuts and abrasions or bruises	2
Trunk, unspecified	Heat (thermal) burns	2
Upper and lower limb(s)	Bruises, contusions	2
Upper arm(s)	Electrical burns	2
Wrist(s)	Sprains, strains, tears	2
Abdomen, except internal location of diseases or disorders	Gunshot wounds	1
Abdomen, except internal location of diseases or disorders	Heat (thermal) burns	1
Ankle(s)	EXPOSURES TO DISEASE—NO ILLNESS INCURRED	1
Ankle(s)	Puncture wounds, except gunshot wounds	1
Ankle(s)	Sprains, strains, tears	1
Ankle(s) and leg(s)	Heat (thermal) burns	1
Arm(s), n.e.c.	Dislocations	1
Arm(s), n.e.c.	Puncture wounds, except gunshot wounds	1
Arm(s), unspecified	Bruises, contusions	1
Arm(s), unspecified	Other burns	1

part_L3	nature_L3	n
Arm(s), unspecified	Sprains, strains, tears	1
Back, including spine, spinal cord, unspecified	Cuts, lacerations	1
Back, including spine, spinal cord, unspecified	Electrical burns	1
Back, including spine, spinal cord, unspecified	Traumatic injuries to muscles, tendons, ligaments, joints, etc., unspecified	1
Back, including spine, spinal cord, unspecified	Traumatic injuries to nerves, except the spinal cord	1
BODY SYSTEMS	Bacterial diseases, unspecified	1
BODY SYSTEMS	Cerebrovascular disease	1
BODY SYSTEMS	Circulatory system diseases, n.e.c.	1
BODY SYSTEMS	Dermatitis and reactions affecting the skin—acute	1
BODY SYSTEMS	Drownings	1
BODY SYSTEMS	Electrical burns	1
BODY SYSTEMS	Other traumatic injuries and disorders, unspecified	1
BODY SYSTEMS	Pneumonia, influenza	1
BODY SYSTEMS	Symptoms involving respiratory system and chest	1
Buttock(s)	Bruises, contusions	1
Cheek(s)	Electrical burns	1
Cheek(s)	Nonspecified injuries and disorders	1
Cheek(s)	Puncture wounds, except gunshot wounds	1
Chest, except internal location of diseases or disorders	Chemical burns and corrosions	1
Chest, except internal location of diseases or disorders	Respiratory system diseases, unspecified	1
Coccygeal region	Bruises, contusions	1
Coccygeal region	Traumatic injuries to bones, nerves, spinal cord, unspecified	1
Ear(s)	Cuts, lacerations	1
Ear(s)	Electrical burns	1
Ear(s)	Nonspecified injuries and disorders	1
Ear(s)	Other traumatic injuries and disorders, n.e.c.	1
Elbow(s)	Dislocations	1
Elbow(s)	Electrical burns	1
Elbow(s)	Fractures and other injuries	1
External reproductive tract structures	Nonspecified injuries and disorders	1
Eye(s)	Abrasions, scratches	1
Eye(s)	Other traumatic injuries and disorders, n.e.c.	1
Face, n.e.c.	Amputations, avulsions, enucleations	1
Face, n.e.c.	Nonspecified injuries and disorders	1
Face, n.e.c.	Puncture wounds, except gunshot wounds	1
Face, unspecified	Puncture wounds, except gunshot wounds	1
Finger(s), fingernail(s)	EXPOSURES TO DISEASE—NO ILLNESS INCURRED	1

part_L3	nature_L3	n
Finger(s), fingernail(s)	Other burns	1
Finger(s), fingernail(s)	Traumatic injuries to muscles, tendons, ligaments, joints, etc., unspecified	1
Foot (feet) and ankle(s)	Fractures and other injuries	1
Foot (feet) and leg(s)	Chemical burns and corrosions	1
Foot (feet) and leg(s)	Cuts, lacerations	1
Foot (feet) and leg(s)	Fractures and other injuries	1
Foot (feet) and leg(s)	Traumatic injuries to muscles, tendons, ligaments, joints, etc., unspecified	1
Foot (feet), n.e.c.	Chemical burns and corrosions	1
Foot (feet), n.e.c.	Cuts, lacerations	1
Foot (feet), n.e.c.	Puncture wounds, except gunshot wounds	1
Foot (feet), unspecified	Dislocations	1
Foot (feet), unspecified	Sprains, strains, tears	1
Forearm(s)	Abrasions, scratches	1
Forearm(s)	Bruises, contusions	1
Forearm(s)	Burns and corrosions, unspecified	1
Forearm(s)	Open wounds, unspecified	1
Forearm(s)	Other traumatic injuries and disorders, n.e.c.	1
Forehead	Abrasions, scratches	1
Forehead	Fractures	1
Forehead	Open wounds, unspecified	1
Forehead	Puncture wounds, except gunshot wounds	1
Groin	Cuts, lacerations	1
Groin	Nonspecified injuries and disorders	1
Groin	Puncture wounds, except gunshot wounds	1
Groin	Sprains, strains, tears	1
Hand(s) and arms(s)	Bruises, contusions	1
Hand(s) and arms(s)	Chemical burns and corrosions	1
Hand(s) and arms(s)	Fractures and other injuries	1
Hand(s) and finger(s)	Abrasions, scratches	1
Hand(s) and finger(s)	Amputations, avulsions, enucleations	1
Hand(s) and finger(s)	Chemical burns and corrosions	1
Hand(s) and finger(s)	Fractures and other injuries	1
Hand(s) and finger(s)	Heat (thermal) burns	1
Hand(s) and finger(s)	Multiple traumatic injuries and disorders, n.e.c.	1
Hand(s) and finger(s)	Nonspecified injuries and disorders	1
Hand(s) and wrist(s)	Abrasions, scratches	1
Hand(s) and wrist(s)	Fractures and other injuries	1

part_L3	nature_L3	n
Hand(s) and wrist(s)	Heat (thermal) burns	1
Hand(s), except finger(s)	Abrasions, scratches	1
Hand(s), except finger(s)	Heat (thermal) burns	1
Hand(s), n.e.c.	Cuts, lacerations	1
Hand(s), unspecified	Abrasions, scratches	1
Hand(s), unspecified	Bruises, contusions	1
Hand(s), unspecified	Chemical burns and corrosions	1
Hand(s), unspecified	Effects of reduced temperature	1
Hand(s), unspecified	Other poisoning, toxic, noxious, or allergenic effects	1
Hand(s), unspecified	Other traumatic injuries and disorders, n.e.c.	1
Hand(s), unspecified	Sprains, strains, tears	1
Head and trunk	Bruises, contusions	1
Head, neck, and trunk	Gunshot wounds	1
Heart	Symptoms involving cardiovascular system	1
Hip(s)	Puncture wounds, except gunshot wounds	1
Hip(s)	Traumatic injuries to nerves, except the spinal cord	1
Hip(s) and leg(s)	Cuts, lacerations	1
Jaw, chin	Abrasions, scratches	1
Knee(s)	Abrasions, scratches	1
Knee(s)	Cartilage fractures and tears	1
Knee(s)	Infections of the skin and subcutaneous tissue	1
Knee(s)	Multiple traumatic injuries and disorders, n.e.c.	1
Knee(s)	Other traumatic injuries and disorders, n.e.c.	1
Leg(s), n.e.c.	Abrasions, scratches	1
Leg(s), unspecified	Abrasions, scratches	1
Leg(s), unspecified	EXPOSURES TO DISEASE—NO ILLNESS INCURRED	1
Leg(s), unspecified	Fractures and other injuries	1
Leg(s), unspecified	Multiple types of open wounds	1
Leg(s), unspecified	Open wounds, unspecified	1
Leg(s), unspecified	Sprains, strains, tears	1
Leg(s), unspecified	Traumatic injuries to muscles, tendons, ligaments, joints, etc., unspecified	1
Lower extremities, unspecified	Amputations, avulsions, enucleations	1
Lower extremities, unspecified	Fractures and other injuries	1
Lower extremities, unspecified	Traumatic injuries to nerves, except the spinal cord	1
Lower leg(s)	Abrasions, scratches	1
Lower leg(s)	EXPOSURES TO DISEASE—NO ILLNESS INCURRED	1
Lower leg(s)	Heat (thermal) burns	1

part_L3	nature_L3	n
Lower leg(s)	Infections of the skin and subcutaneous tissue	1
Lower leg(s)	Multiple types of open wounds	1
Lower leg(s)	Other traumatic injuries and disorders, n.e.c.	1
Lower leg(s)	Puncture wounds, except gunshot wounds	1
Lower leg(s)	Traumatic injuries to muscles, tendons, ligaments, joints, etc., n.e.c.	1
Lumbar region	Fractures and other injuries	1
Lumbar region	Multiple traumatic injuries and disorders, n.e.c.	1
Lumbar region	Traumatic injuries to bones, nerves, spinal cord, unspecified	1
Mouth	Nonspecified injuries and disorders	1
Mouth	Puncture wounds, except gunshot wounds	1
Multiple back regions	Bruises, contusions	1
Multiple back regions	Heat (thermal) burns	1
Multiple back regions	Sprains, strains, tears	1
Multiple body parts, n.e.c.	Burns and corrosions, unspecified	1
Multiple body parts, n.e.c.	Multiple traumatic injuries to bones, nerves, spinal cord	1
Multiple body parts, n.e.c.	Sprains and other injuries	1
Multiple body parts, unspecified	Bruises, contusions	1
Multiple body parts, unspecified	Cuts and abrasions or bruises	1
Multiple body parts, unspecified	Cuts, lacerations	1
Multiple body parts, unspecified	Sprains and other injuries	1
Multiple face locations	Chemical burns and corrosions	1
Multiple face locations	Electrical burns	1
Multiple face locations	Heat (thermal) burns	1
Multiple face locations	Puncture wounds, except gunshot wounds	1
Multiple foot (feet) locations	Cuts, lacerations	1
Multiple foot (feet) locations	Fractures and other injuries	1
Multiple foot (feet) locations	Heat (thermal) burns	1
Multiple foot (feet) locations	Nonspecified injuries and disorders	1
Multiple head locations	Bruises, contusions	1
Multiple head locations	Cuts and abrasions or bruises	1
Multiple head locations	Heat (thermal) burns	1
Multiple head locations	Multiple traumatic injuries and disorders, n.e.c.	1
Multiple leg locations	Chemical burns and corrosions	1
Multiple leg locations	Cuts and abrasions or bruises	1
Multiple leg locations	Cuts, lacerations	1
Multiple leg locations	Gunshot wounds	1
Multiple leg locations	Nonspecified injuries and disorders	1

part_L3	nature_L3	n
Multiple lower extremities locations, n.e.c.	Heat (thermal) burns	1
Multiple lower extremities locations, n.e.c.	Nonspecified injuries and disorders	1
Multiple lower extremities locations, unspecified	Cuts, lacerations	1
Multiple lower extremities locations, unspecified	Fractures and other injuries	1
Multiple pelvic region locations	Nonspecified injuries and disorders	1
Multiple trunk locations	Bruises, contusions	1
Multiple trunk locations	Electrical burns	1
Multiple trunk locations	Multiple traumatic injuries to bones, nerves, spinal cord	1
Multiple trunk locations	Puncture wounds, except gunshot wounds	1
Multiple trunk locations	Traumatic injuries to muscles, tendons, ligaments, joints, etc., unspecified	1
Multiple upper extremities locations, n.e.c.	Burns and other injuries, except fractures	1
Neck and back	Fractures and other injuries	1
Neck and back	Sprains and other injuries	1
Neck, except internal location of diseases or disorders	Chemical burns and corrosions	1
Neck, except internal location of diseases or disorders	Heat (thermal) burns	1
Nonclassifiable	Blisters	1
Nonclassifiable	Burns and corrosions, unspecified	1
Nonclassifiable	Burns and other injuries, except fractures	1
Nonclassifiable	Effects of reduced temperature	1
Nonclassifiable	Multiple traumatic injuries and disorders, n.e.c.	1
Nonclassifiable	Multiple traumatic injuries and disorders, unspecified	1
Nonclassifiable	Multiple types of open wounds	1
Nonclassifiable	Other burns	1
Nonclassifiable	Sprains, strains, tears	1
Nonclassifiable	Surface wounds and bruises, unspecified	1
Nonclassifiable	Traumatic injuries to bones, nerves, spinal cord, unspecified	1
Nonclassifiable	Traumatic injuries to muscles, tendons, ligaments, joints, etc., n.e.c.	1
Nonclassifiable	Traumatic injuries to muscles, tendons, ligaments, joints, etc., unspecified	1
Nonclassifiable	Traumatic injuries to spinal cord	1
Pelvic region, unspecified	Cuts, lacerations	1
Pelvis	Fractures and other injuries	1
Shoulder(s) and arm(s)	Electrical burns	1
Shoulder(s) and arm(s)	Fractures and other injuries	1
Shoulder(s) and arm(s)	Heat (thermal) burns	1
Shoulder(s) and back	Nonspecified injuries and disorders	1
Shoulder(s) and back	Sprains, strains, tears	1
Shoulder(s), including clavicle(s), scapula(e)	Electrical burns	1

part_L3	nature_L3	n
Shoulder(s), including clavicle(s), scapula(e)	Fractures and other injuries	1
Shoulder(s), including clavicle(s), scapula(e)	Puncture wounds, except gunshot wounds	1
Sole(s)	Cuts, lacerations	1
Spleen	Internal injuries to organs and blood vessels of the trunk	1
Thigh(s)	Abrasions, scratches	1
Thigh(s)	Electrical burns	1
Thigh(s)	Other traumatic injuries and disorders, n.e.c.	1
Thoracic region	Amputations, avulsions, enucleations	1
Thoracic region	Nonspecified injuries and disorders	1
Toes(s), toenail(s)	Dislocations	1
Toes(s), toenail(s)	Electrical burns	1
Toes(s), toenail(s)	Puncture wounds, except gunshot wounds	1
Trunk, unspecified	Bruises, contusions	1
Trunk, unspecified	Cuts, lacerations	1
Trunk, unspecified	Internal injuries to organs and blood vessels of the trunk	1
Trunk, unspecified	Puncture wounds, except gunshot wounds	1
Upper and lower limb(s)	Amputations, avulsions, enucleations	1
Upper and lower limb(s)	Dislocations	1
Upper and lower limb(s)	Multiple surface wounds and bruises	1
Upper and lower limb(s)	Multiple traumatic injuries and disorders, n.e.c.	1
Upper and lower limb(s)	Puncture wounds, except gunshot wounds	1
Upper arm(s)	Amputations, avulsions, enucleations	1
Upper arm(s)	Fractures and other injuries	1
Upper arm(s)	Heat (thermal) burns	1
Upper arm(s)	Nonspecified injuries and disorders	1
Upper arm(s)	Sprains, strains, tears	1
Upper extremities, unspecified	Amputations, avulsions, enucleations	1
Upper extremities, unspecified	Electrical burns	1
Upper extremities, unspecified	Fractures	1
Upper extremities, unspecified	Fractures and other injuries	1
Upper extremities, unspecified	Nonspecified injuries and disorders	1
Whole body	Heat (thermal) burns	1