

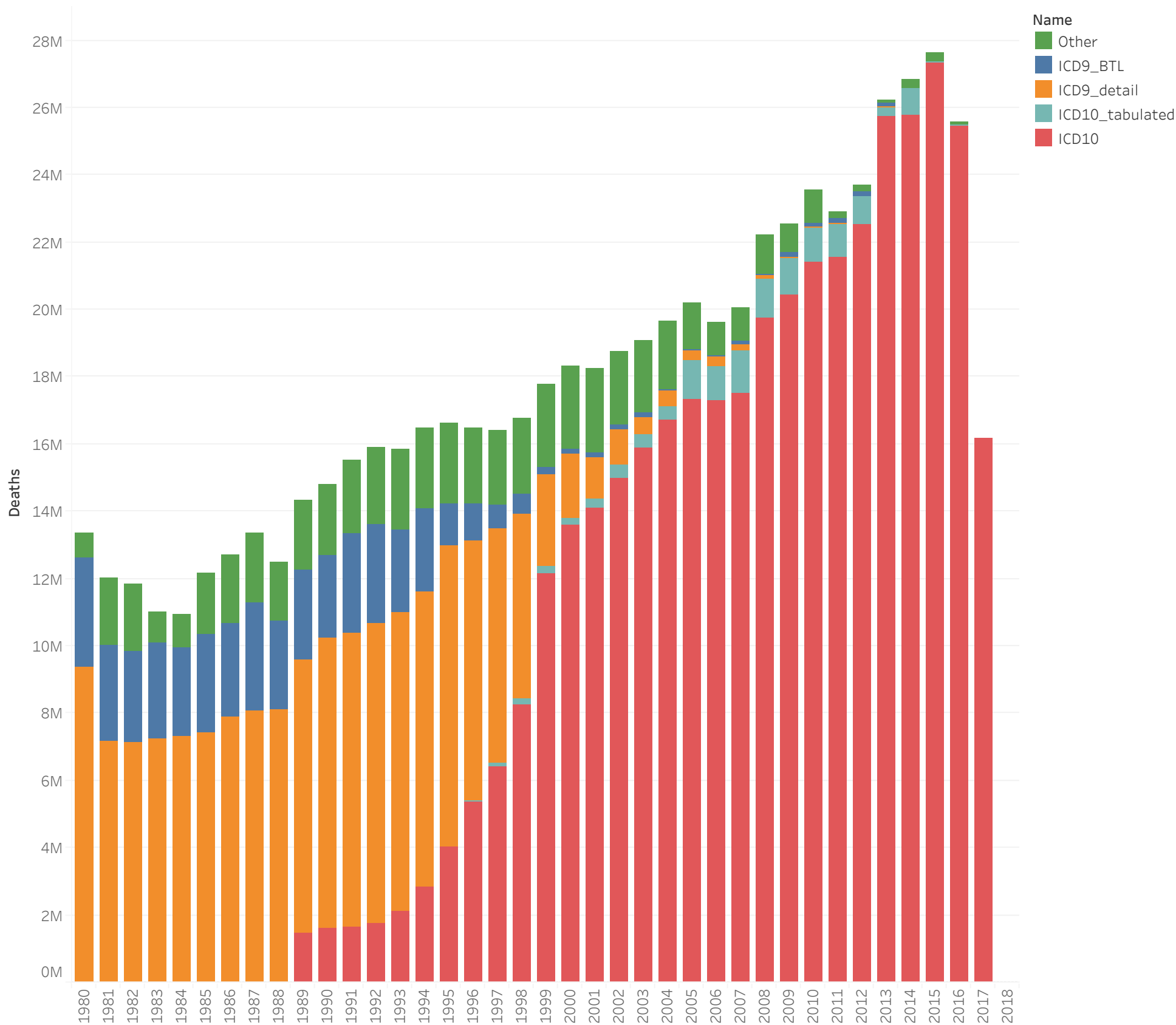
# Supplemental Appendix: Public health utility of cause of death data: applying empirical algorithms to improve data quality

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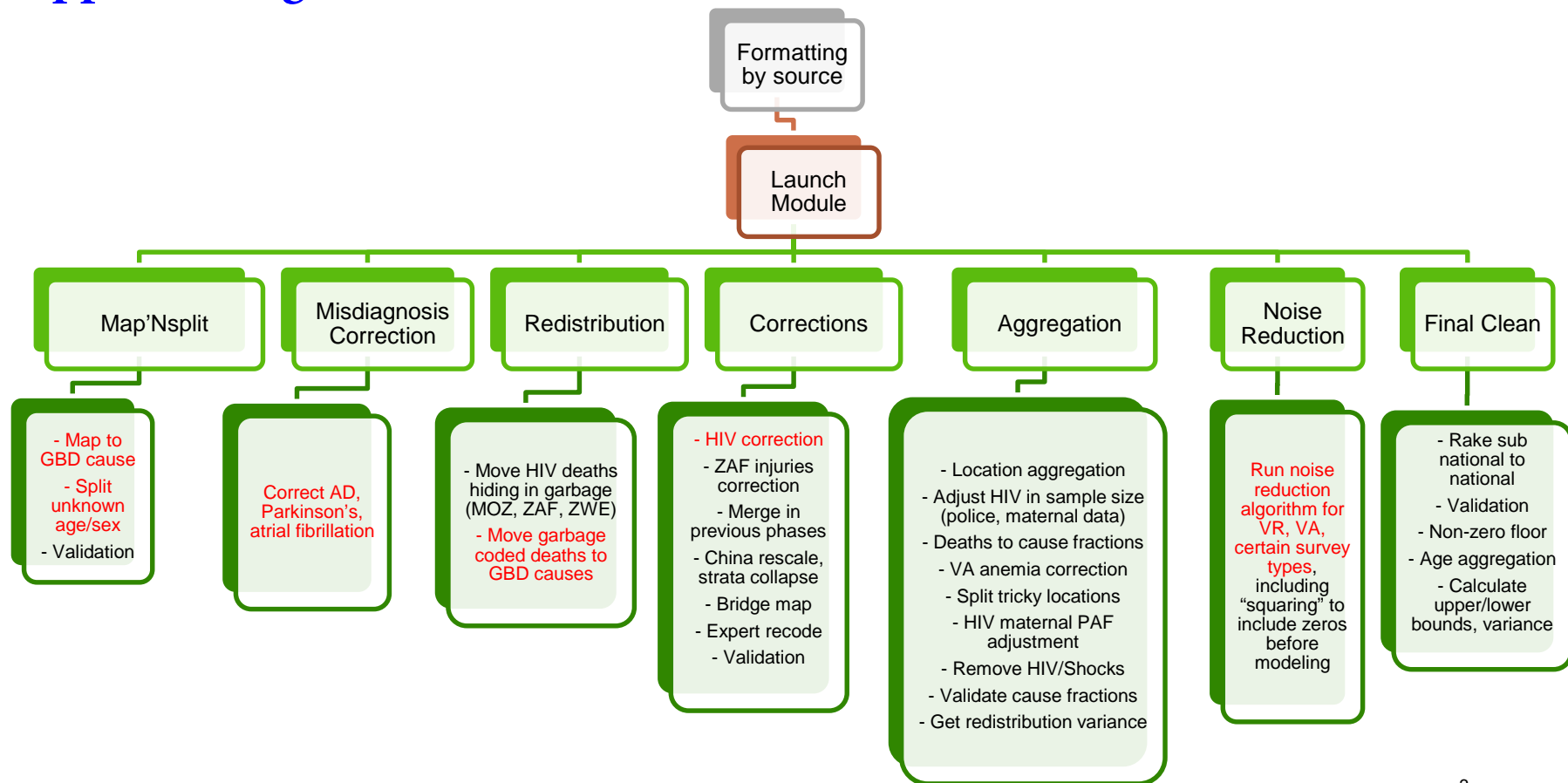
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# Appendix Figure 1

VR deaths by year and code system



## Appendix Figure 2



# Appendix Figure 3

Map of ICD10 codes to GBD cause	
GBD cause name	ICD codes
Cholera	A00-A00.9
Garbage Code	A01, A14.9, A29-A31.9, A40-A45.9, A47-A48.0, A48.3, A48.8-A49.9, A59-A59.9, A61-A62, A64-A64.0, A71-A73, A74.0, A76, A97, A99-A99.0, B07-B09, B11-B14, B16.9-B17, B17.1, B17.8-B17.9, B19-B19.0, B19.2-B19.9, B28-B29, B30-B32.4, B34-B34.1, B34.3-B46.9, B49-B49.9, B54-B55, B55.1-B55.9, B58-B59.9, B61-B62, B64, B68-B68.9, B73-B74.2, B76-B76.9, B78-B82.9, B83.9-B85.4, B87-B89, B92-B94.0, B94.2-B94.9, B95.6-B97.1, B97.3, B97.7-B99.9, C14-C14.9, C22.9, C26-C29, C35-C36, C39-C39.9, C42, C46-C46.9, C55-C55.9, C57.9, C59-C6, C63.9, C68, C68.9-C69, C69.9, C74-C74.9, C75.9-C80.9, C83, C83.9, C85.1, C85.9, C87, C91.1, C91.4-C91.5, C91.7-C91.9, C92.7-C92.9, C93.2, C93.5-C93.7, C93.9, C94.6, C97-D00.0, D01, D01.4-D02, D02.4-D02.9, D07, D07.3, D07.6-D09, D09.1, D09.7, D09.9-D10, D10.9, D13, D13.9-D14, D14.4, D17-D21.9, D28, D28.9-D29, D29.9-D30, D30.9, D36.0, D36.9-D37.0, D37.6-D38, D38.6-D39.0, D39.7, D39.9-D40, D40.9-D41, D41.9, D44, D44.9, D48, D48.7-D49.1, D49.5, D49.7-D50.0, D50.9, D54, D59, D59.4, D59.8-D59.9, D62-D63.0, D63.8-D64, D64.1-D65.9, D68, D69.9, D75.9, D79-D85, D87-D88, D89.8-D99, E07.8-E08.9, E12-E16, E17-E19, E34.0, E34.9-E35.8, E37-E39, E47-E50.9, E62, E64.1, E69, E85.3-E87.9, E90-E998, F04-F07.0, F07.2-F09.9, F17-F17.9, F19-F23.9, F25-F50, F50.8-G00, G00.9-G02.8, G03.9, G06-G09.9, G15-G19, G21, G21.2, G21.4-G22.0, G27-G29, G32-G34, G38-G39., G42-G44.8, G47-G47.2, G47.4-G60.9, G62-G62.0, G62.2-G69, G74-G89.4, G91-G93.6, G93.8-G94.8, G96-G96.9, G98-H05, H05.2-H69.9, H71-H99, I00.0, I03-I04., I10-I10.9, I14-I19, I26-I27, I27.8-I27.9, I29-I29.9, I31.2-I31.4, I37.9, I42-I42.0, I42.9, I44-I46.9, I49-I51, I51.5-I59, I64-I64.9, I67, I67.4, I67.8-I68, I68.8-I69, I69.4-I70.1, I70.9, I74-I76, I90-I95.1, I95.8-I96.9, I98.4-I98.8, I99-ID5.9, J02.9, J03.9, J04.3, J06, J06.9-J08, J15.9, J17-J19.6, J22-J29, J40-J40.9, J47-J59, J64-J65.0, J69-J69.9, J71-J81.9, J83, J85-J90.9, J93-J94.9, J96-K19, K21-K21.9, K22.7, K30, K31.9-K34, K39, K47-K49, K53-K54, K63-K63.4, K63.8-K63.9, K65-K66.1, K66.9, K68.1-K69, K70.4-K71.6, K71.8-K72.9, K75.0, K78-K79, K84, K87-K89, K92-K92.2, K92.9-K93, K96-K99, L06-L07, L09, L15-L50.9, L52-L54.8, L56-L56.2, L56.4-L56.5, L57-L57.9, L59-L87.9, L90-L92.9, L94-L96, L98.5-L99.8, M04, M10-M12.0, M12.2-M29, M37-M39, M43.2-M49, M49.2-M64, M65.1-M71, M71.2-M72.4, M72.8-M73, M73.8-M79.9, M83-M86.2, M86.5-M86.9, M87.2-M87.9, M89.1-M89.4, M90-M99.9, N09, N13-N13.5, N13.7-N13.9, N17-N17.9, N19-N19.9, N24, N28.8-N28.9, N32.1-N32.2, N32.8-N33.8, N35-N35.9, N37-N38, N39.3-N40.9, N42-N43.4, N44.1-N44.8, N46-N48.9, N50-N59, N61-N64.9, N66-N71.9, N73-N74.0, N74.2-N74.8, N78-N79, N82-N82.9, N84, N84.2-N86, N88-N95.9, N97-N97.9, O08-O08.9, O17-O19, O27, O37-O39, O49-O59, O78-O79, O93-O95.9, P06, P16-P18, P23, P23.5-P23.9, P30-P34.2, P37.3-P37.4, P40-P49, P62-P69, P73, P79, P82, P85-P89, P96.9-P99.9, Q08-Q10.3, Q19, Q29-Q29., Q36.0-Q36.9, Q46-Q49, Q88, Q89.9, Q94, Q99.9-R19.6, R19.8-R50.1, R50.8-R78, R78.6-R94.8, R96-TO7., U05, U08-U81, U89.9-U99, V87-V87.1, V87.4-V88.1, V88.4-V89.9, V99-V99.0, W47-W48, W63, W71-W72, W76-W76.9, W82, W95-W97, W98, X07, X40-X44.9, X46-X46.9, X49-X49.9, X55-X56, X59-X59.9, X84-X84.9, Y09-Y14.9, Y16-Y34.9, Y85-Y87, Y87.2, Y89, Y89.9-Z15.8, Z17-ZZZ
Typhoid fever	A01.0
Paratyphoid fever	A01.1-A01.4
Other salmonella infections	A02-A02.0, A02.8-A02.9
Invasive Non-typhoidal Salmonella (iNTS)	A02.1-A02.2
Shigellosis	A03-A03.9
Other diarrheal diseases	A04, A04.6, A04.8-A04.9, A07, A07.3-A07.4, A08, A08.3-A09.9, K52.1-K52.3, R19.7
Enteropathogenic E coli infection	A04.0
Enterotoxigenic E coli infection	A04.1-A04.4
Campylobacter enteritis	A04.5
Clostridium difficile	A04.7
Other bacterial foodborne diarrhea	A05-A05.9
Amoebiasis	A06-A06.9
Other intestinal infectious diseases	A07.0-A07.1, A07.8-A07.9

# Map of ICD10 codes to GBD cause

GBD cause name	ICD codes
Cryptosporidiosis	A07.2
Rotaviral enteritis	A08.0
Norovirus	A08.1
Adenovirus	A08.2
Respiratory tuberculosis	A10-A14, A15-A16.9
Tuberculosis of nervous system	A17-A17.9
Tuberculosis of other organs	A18, A18.4-A19.9, K67.3
Tuberculosis of bones and joints	A18.0
Tuberculosis of genitourinary system	A18.1
Tuberculous peripheral lymphadenopathy	A18.2
Tuberculosis of intestines, peritoneum and mesenteric glands	A18.3
Zoonotic bacterial diseases	A20-A28.9, M49.1
Other unspecified infectious diseases	A32-A32.9, A38-A38.9, A48.2, A48.4-A48.5, A65-A65.0, A69-A69.1, A74, A74.8-A74.9, A81-A81.9, A88-A89.9, B03-B04, B25-B25.9, B27-B27.9, B29.4, B33, B33.3-B33.8, B47-B48.8, B91, B95-B95.5, D70.3, D89.3, F02.1, G14-G14.6, I00, I02, I02.9, I98.1, K67.8, K75.3, K76.3, K77.0, M89.6, P35, P35.1-P35.2, P35.9, P37, P37.2, P37.5-P37.9
Tetanus	A33-A35.0
Diphtheria	A36-A36.9
Pertussis	A37-A37.9
Meningococcal meningitis	A39-A39.9
Pyoderma	A46-A46.0, A66-A67.9, H05.1, I89.1-I89.8, L00-L02.9, L04-L05.9, L08-L08.9, L88, L97-L98.4
Other lower respiratory infections	A48.1, A70, B34.2, B97.2, J12-J12.0, J12.2-J12.9, J15-J15.2, J15.5, J15.7-J15.8, J16-J16.9, J20-J21.9, J91.0, P23.0-P23.4
Syphilis	A50-A53.9, I98.0, K67.2, M03.1, M73.1

Map of ICD10 codes to GBD cause	
GBD cause name	ICD codes
Gonococcal infection	A54-A54.9, K67.1, M73.0
Chlamydial infection	A55-A56.8, K67.0
Other sexually transmitted infections	A57-A58, A63-A63.8, B63
Genital herpes	A60-A60.9
Other neglected tropical diseases	A68-A68.9, A69.2-A69.9, A75-A75.9, A77-A79.9, A92-A94.0, A96-A96.9, A98-A98.3, A98.5-A98.8, B33.0-B33.1, B60-B60.8, B67.5-B67.7, B70-B71.9, B74.3-B75, B83-B83.8, P37.1
Poliomyelitis	A80-A80.9
Rabies	A82-A82.9
Encephalitis	A83-A86.4, B94.1, F07.1, G04-G05.8, G21.3
Viral meningitis	A87-A87.9
Dengue	A90-A91.9
Yellow fever	A95-A95.9
Ebola	A98.4
Non-genital herpes infection	B00-B00.9, B10-B10.8
Varicella and herpes zoster	B01-B02.9, P35.8
Measles	B05-B05.9
Rubella	B06-B06.9, P35.0
Acute hepatitis A	B15-B15.9
Acute hepatitis B	B16-B16.2, B17.0, B19.1, P35.3
Acute hepatitis E	B17.2
Cirrhosis and other chronic liver diseases	B18-B18.9, I85-I85.9, I98.2, K70-K70.3, K71.7, K73-K75, K75.2, K75.4-K76.2, K76.4-K76.9, K77.8

Map of ICD10 codes to GBD cause	
GBD cause name	ICD codes
HIV/AIDS resulting in other diseases	B20, B20.1-B24.9, F02.4
HIV/AIDS - Drug-susceptible Tuberculosis	B20.0
Mumps	B26-B26.9
Myocarditis	B33.2, I40-I41.9, I51.4
Malaria	B50-B53.8
Visceral leishmaniasis	B55.0
African trypanosomiasis	B56-B56.9
Chagas disease	B57-B57.5, K93.1
Schistosomiasis	B65-B65.9
Food-borne trematodiasis	B66-B66.9, B72.0
Cystic echinococcosis	B67-B67.4, B67.8-B67.9
Cysticercosis	B69-B69.9
Guinea worm disease	B72
Ascariasis	B77-B77.9
Scabies	B86
Drug-susceptible tuberculosis	B90-B90.9, K93.0, M49.0, N74.1, P37.0
Respiratory syncytial virus pneumonia	B97.4-B97.6, J12.1
Lip and oral cavity cancer	C0-C08.9, D10.0-D10.5, D11-D11.9
Other pharynx cancer	C09-C10.9, C12-C13.9, D10.7
Nasopharynx cancer	C11-C11.9, D10.6

# Map of ICD10 codes to GBD cause

GBD cause name	ICD codes
Esophageal cancer	C15-C15.9, D00.1, D13.0
Stomach cancer	C16-C16.9, D00.2, D13.1, D37.1
Other malignant neoplasms (internal)	C17-C17.9, C3-C31.9, C37-C38.8, C4, C48-C48.9, C4A-C5, C51-C52.9, C57-C57.8, C60-C60.9, C63-C63.8, C66-C66.9, C68.0-C68.8, C7, C75-C75.0, C75.4-C75.8, D07.4, D09.2, D13.2-D13.3, D14.0, D15-D16.9, D28.0-D28.1, D28.7, D29.0, D30.2, D30.4-D30.8, D31-D31.9, D35-D35.2, D35.5-D36, D36.1-D36.7, D37.2, D38.2-D38.5, D39.2, D39.8, D41.2-D41.3, D44.1-D44.8, D48.0-D48.4
Colon and rectum cancer	C18-C21.9, D01.0-D01.3, D12-D12.9, D37.3-D37.5
Liver cancer	C22-C22.1, C22.3-C22.8, D13.4
Hepatoblastoma	C22.2
Gallbladder and biliary tract cancer	C23-C24.9, D13.5
Pancreatic cancer	C25-C25.9, D13.6-D13.7
Larynx cancer	C32-C32.9, D02.0, D14.1, D38.0
Tracheal, bronchus, and lung cancer	C33-C34.9, D02.1-D02.3, D14.2-D14.3, D38.1
Malignant neoplasm of bone and articular cartilage	C40-C41.9
Malignant skin melanoma	C43-C43.9, D03-D03.9, D22-D23.9, D48.5
Non-melanoma skin cancer (squamous-cell carcinoma)	C44-C44.9, D04-D04.9, D49.2
Mesothelioma	C45-C45.9
Neuroblastoma and other peripheral nervous cell tumors	C47-C47.9
Soft tissue and other extraosseous sarcomas	C49-C49.9
Breast cancer	C50-C50.9, D05-D05.9, D24-D24.9, D48.6, D49.3
Cervical cancer	C53-C53.9, D06-D06.9, D26.0
Uterine cancer	C54-C54.9, D07.0-D07.2, D26.1-D26.9
Ovarian cancer	C56-C56.9, D27-D27.9, D39.1



# Map of ICD10 codes to GBD cause

GBD cause name	ICD codes
Other direct maternal disorders	C58-C58.0, N98-N98.9, O09-O09.9, O21-O22.9, O26-O26.9, O28-O31.8, O34-O36.9, O40-O43.1, O43.8-O43.9, O47-O48.1, O60-O61.9, O63-O63.9, O68-O69.9, O70.0-O70.9, O73-O77.9, O80-O84.9, O87-O90.9, O92-O92.7
Prostate cancer	C61-C61.9, D07.5, D29.1, D40.0
Testicular cancer	C62-C62.9, D29.2-D29.8, D40.1-D40.8
Kidney cancer	C64-C65.9, D30.0-D30.1, D41.0-D41.1
Bladder cancer	C67-C67.9, D09.0, D30.3, D41.4-D41.8, D49.4
Other eye cancers	C69.0-C69.1, C69.3-C69.8
Retinoblastoma	C69.2
Brain and central nervous system cancer	C70-C72.9, C75.1-C75.3
Thyroid cancer	C73-C73.9, D09.3, D09.8, D34-D34.9, D44.0
Hodgkin lymphoma	C81-C81.9
Other non-Hodgkin lymphoma	C82-C82.9, C83.0-C83.6, C83.8, C84-C85.0, C85.2-C85.8, C86-C86.6, C96-C96.9
Burkitt lymphoma	C83.7
Multiple myeloma	C88-C90.9
Leukemia	C91, C92, C93, C94, C95-C95.9
Acute lymphoid leukemia	C91.0, C91.2-C91.3, C91.6
Acute myeloid leukemia	C92.0, C92.3-C92.6, C93.0, C94.0, C94.2, C94.4-C94.5
Chronic myeloid leukemia	C92.1-C92.2
Other leukemia	C93.1, C93.3, C93.8, C94.1, C94.3, C94.7-C94.8
Uterine fibroids	D25-D26, D28.2
Benign and in situ CNS neoplasms	D32-D33.9, D35.3-D35.4, D42-D43.9, D49.6

Map of ICD10 codes to GBD cause	
GBD cause name	ICD codes
Myelodysplastic, myeloproliferative, and other hematopoietic neoplasms	D45-D47.9
Dietary iron deficiency	D50.1-D50.8
Other nutritional deficiencies	D51-D52.0, D52.8-D53.9, E00-E02, E51-E61.9, E63-E64, E64.2-E64.9, M12.1
Post procedural or drug treatment disorders	D52.1, D59.0, D59.2, D59.6, D69.5, D70.1-D70.2, D78-D78.8, E03.2, E06.4, E09-E09.9, E16.0, E23.1, E24.2, E27.3, E36-E36.8, E66.1, E88.3, E89-E89.9, G21.0-G21.1, G24.0, G25.1, G25.4, G25.6-G25.7, G72.0, G93.7, G97-G97.9, I95.2-I95.3, I97-I97.9, I98.9, I70.0-I70.5, I95-I95.9, K43-K43.9, K52.0, K62.7, K91-K91.9, K94-K95.8, M87.1, N14-N14.4, N65-N65.1, N99-N99.9, P96.2, P96.5, R50.2
G6PD deficiency	D55-D55.2
Other hemoglobinopathies and hemolytic anemias	D55.3-D55.9, D58-D58.9, D59.1, D59.3, D59.5, D60-D60.9, D64.0
Thalassemias	D56-D56.9
Sickle cell disorders	D57-D57.8
Aplastic anemias	D61-D61.9
Chronic kidney disease	D63.1, N18-N18.9
Other endocrine, metabolic, blood, and immune disorders	D66-D67, D68.0-D69.4, D69.6-D69.8, D70-D70.0, D70.4-D75.8, D76-D77, D86.8, D89-D89.2, E07.0, E16.1-E16.9, E20-E23.0, E23.2-E24.1, E24.3, E24.8-E27.2, E27.4-E28.1, E28.3-E34, E34.1-E34.8, E67-E68, E70-E77.9, E79-E83.9, E85-E85.2, E88-E88.2, E88.4-E88.9
Interstitial lung disease and pulmonary sarcoidosis	D86-D86.2, D86.9, J84-J84.9
Other skin and subcutaneous diseases	D86.3, L10-L14.0, L51-L51.9
Hypothyroidism	E03-E03.1, E03.3-E04.9, E06-E06.3, E06.5-E07, E07.1
Hyperthyroidism	E05-E05.9
Diabetes mellitus type 1	E10-E10.1, E10.3-E10.9, P70.2
Chronic kidney disease due to diabetes mellitus type 1	E10.2
Diabetes mellitus type 2	E11-E11.1, E11.3-E11.9
Chronic kidney disease due to diabetes mellitus type 2	E11.2
Alcohol use disorders	E24.4, F10-F10.9, G31.2, G62.1, G72.1, P04.3, Q86.0, R78.0, X45-X45.9, X65-X65.9, Y15-Y15.9

Map of ICD10 codes to GBD cause	
GBD cause name	ICD codes
Polycystic ovarian syndrome	E28.2
Protein-energy malnutrition	E40-E46.9, E64.0
Obesity	E65-E66.0, E66.2-E66.9
Lipoprotein metabolism and other lipidaemias disorders	E78-E78.9
Cystic fibrosis	E84-E84.9
Alzheimer's disease and other dementias	F00-F02.0, F02.8-F03.9, G30-G31.1, G31.8-G31.9
Other neurological disorders	F02.2, G10-G12.1, G13-G13.8, G23-G24, G24.1-G25.0, G25.2-G25.3, G25.5, G25.8-G26.0, G36-G37.9, G61-G61.9, G70-G71.1, G71.3-G71.9, G73-G73.7, G90-G90.9, G95-G95.9
Parkinson's disease	F02.3, G20-G20.9
Opioid use disorders	F11-F11.9, P96.1, R78.1
Cannabis use disorders	F12-F12.9
Other drug use disorders	F13-F13.9, F16-F16.9, F18-F18.9, P04.4, R78.3-R78.5
Cocaine use disorders	F14-F14.9, R78.2
Amphetamine use disorders	F15-F15.9
Other mental disorders	F24
Anorexia nervosa	F50.0-F50.5
H influenzae type B meningitis	G00.0
Pneumococcal meningitis	G00.1
Other meningitis	G00.2-G00.8, G03-G03.8
Motor neuron disease	G12.2-G12.9
Multiple sclerosis	G35-G35.9

Map of ICD10 codes to GBD cause	
GBD cause name	ICD codes
Idiopathic epilepsy	G40-G41.9
Ischemic stroke	G45-G46.8, I63-I63.9, I65-I66.9, I67.2-I67.3, I67.5-I67.6, I69.3
Sleep apnea	G47.3
Other congenital birth defects	G71.2, Q02-Q04.9, Q06-Q07.9, Q10.4-Q18.9, Q30-Q34.9, Q80-Q86, Q86.1-Q86.8, Q89-Q89.8
Fibromyalgia and other neuropathies	G72, G72.2-G72.9, M33-M33.9
Cellulitis	H05.0, L03-L03.9, M72.5-M72.6
Otitis media	H70-H70.9
Rheumatic heart disease	I01-I01.9, I02.0, I05-I09.9
Hypertensive heart disease	I11-I11.9
Chronic kidney disease due to hypertension	I12-I13.9
Angina	I20-I20.9
Acute myocardial infarction	I21-I24.9
Chronic ischemic heart disease	I25-I25.9
Pulmonary Arterial Hypertension	I27.0
Other musculoskeletal disorders	I27.1, I67.7, M07-M08, M30-M31.9, M34-M36.8, M40-M43.1, M87-M87.0, M88-M89.0, M89.5, M89.7-M89.9
Other cardiovascular and circulatory diseases (internal)	I27.2, I28-I28.9, I30-I31.1, I31.8-I32.8, I47-I47.9, I51.0-I51.3, I68.0, I72-I72.9, I77-I79.8, I86-I86.0, I86.4-I87, I87.1-I89.0, I89.9, I98
Endocarditis	I33-I33.9, I38-I39.9
Non-rheumatic degenerative mitral valve disease	I34-I34.9
Non-rheumatic calcific aortic valve disease	I35-I35.9
Other non-rheumatic valve diseases	I36-I37.8

Map of ICD10 codes to GBD cause	
GBD cause name	ICD codes
Other cardiomyopathy	I42.1-I42.5, I42.7-I42.8, I43-I43.9
Alcoholic cardiomyopathy	I42.6
Atrial fibrillation and flutter	I48-I48.9
Subarachnoid hemorrhage	I60-I60.9, I62.0, I67.0-I67.1, I69.0
Intracerebral hemorrhage	I61-I62, I62.1-I62.9, I68.1-I68.2, I69.1-I69.2
Lower extremity peripheral arterial disease	I70.2-I70.8, I73-I73.9
Aortic aneurysm	I71-I71.9
Phlebitis and thrombophlebitis	I80-I82.9, I87.0, K75.1
Varicose veins	I83-I83.9, I86.1-I86.3
Hemorrhoids, anal fissure, anal abscess, and fistula	I84-I84.9, K60-K62, K62.2-K62.6, K62.8-K62.9, K64-K64.9
Upper respiratory infections	J00-J02.8, J03-J03.8, J04-J04.2, J05-J05.1, J06.0-J06.8, J36-J36.0
Influenza	J09-J11.8, U04-U04.9
Pneumococcal pneumonia	J13-J13.9, J15.3-J15.4, J15.6
H influenzae type B pneumonia	J14-J14.0
Allergic disorders of upper respiratory system	J30-J30.9
Chronic diseases of upper respiratory system	J31-J34.0, J35-J35.9, J37-J37.1, J39.0-J39.1
Other chronic respiratory diseases	J34.1-J34.9, J38-J39, J39.2-J39.9, J66-J68.9, J70, J70.8-J70.9, J82, J91, J91.8-J92, J92.9
Chronic obstructive pulmonary disease	J41-J44.9
Asthma	J45-J46.9
Coal workers pneumoconiosis	J60-J60.0

Map of ICD10 codes to GBD cause	
GBD cause name	ICD codes
Asbestosis	J61-J61.0, J92.0
Silicosis	J62-J62.9
Other pneumoconiosis	J63-J63.8
Esophageal diseases	K20-K20.9, K22-K22.6, K22.8-K24
Peptic ulcer disease	K25-K28.9
Gastritis and duodenitis	K29-K29.9
Other digestive diseases	K31-K31.8, K38-K38.2, K58-K58.0, K59, K59.1-K59.2, K59.4-K59.9, K66.8, K67, K68, K77, K90, K90.1-K90.9, K92.8, K93.8
Appendicitis	K35-K37.9, K38.3-K38.9
Inguinal hernia	K40-K40.9
Femoral hernia	K41-K41.9
Abdominal and other hernia	K42-K42.9, K45-K46.9
Diaphragmatic hernia	K44-K44.9
Crohn's disease	K50-K50.9, M09.1
Ulcerative colitis	K51-K52, K52.8-K52.9
Vascular intestinal disorders	K55-K55.9
Paralytic ileus and intestinal obstruction	K56-K56.9
Diverticular disease of intestines	K57-K57.9
Constipation	K58.9, K59.0, K59.3
Benign and in situ intestinal neoplasms	K62.0-K62.1, K63.5
Gallbladder and biliary diseases	K80-K83.9

Map of ICD10 codes to GBD cause	
GBD cause name	ICD codes
Pancreatitis	K85-K86.9
Celiac disease	K90.0
Environmental heat and cold exposure	L55-L55.9, L56.3, L56.8-L56.9, L58-L58.9, W88-W94.9, W97.9, W99-W99.9, X30-X32.9, X39-X39.9
Decubitus ulcer	L89-L89.9
Systemic and discoid lupus erythematosus	L93-L93.2, M32-M32.9
Pyogenic and reactive arthritis	M00-M03.0, M03.2-M03.6, M08.9-M09.0, M09.2-M09.8, M65-M65.0, M71.0-M71.1
Rheumatoid arthritis	M05-M06.9, M08.0-M08.8
Osteoporosis and related pathological fracture	M80-M82.8
Osteomyelitis non-traumatic	M86.3-M86.4
Acute glomerulonephritis	N00-N01.9
Chronic kidney disease due to other and unspecified causes	N02-N02.9, N07-N08.8, N15.0, Q61-Q62.8
Chronic kidney disease due to glomerulonephritis	N03-N06.9
Urinary tract infections and interstitial nephritis	N10-N12.9, N13.6, N15, N15.1-N16.8, N30-N30.3, N30.8-N30.9, N34-N34.3, N39.0-N39.2
Urolithiasis	N20-N23.0
Other urinary diseases	N25-N28.1, N29-N29.8, N31-N32.0, N32.3-N32.4, N36-N36.9, N39, N44-N44.0
Adverse effects of medical treatment	N30.4, P93-P93.8, Y40-Y84.9, Y88-Y88.3
Prostatitis and epididymitis	N41-N41.9, N45-N45.9, N49-N49.9
Other benign and in situ neoplasms	N60-N60.9
Inflammatory diseases of cervix, vagina, and vulva	N72-N72.0, N75-N77.8
Endometriosis	N80-N80.9

# Map of ICD10 codes to GBD cause

GBD cause name	ICD codes
Genital prolapse	N81-N81.9
Other gynecological diseases	N83-N83.9
Benign and in situ cervical and uterine neoplasms	N84.0-N84.1, N87-N87.9
Spontaneous abortion	N96, O01-O03.9
Ectopic pregnancy	O00-O00.9
Induced abortion	O04-O07.9
Maternal hypertensive disorders	O10-O16.9
Maternal hemorrhage	O20-O20.9, O43.2, O44-O46.9, O62-O62.9, O67-O67.9, O70, O72-O72.3
Maternal sepsis and other maternal infections	O23-O23.9, O85-O86.8, O91-O91.2
Indirect maternal deaths	O24-O25.3, O98-O98.6, O98.8-O99.9
Maternal obstructed labor and uterine rupture	O32-O33.9, O64-O66.9, O71-O71.9
Late maternal deaths	O96-O97.9
CC code	O98.7
Other neonatal disorders	P00-P01, P01.2-P01.6, P01.8-P01.9, P04-P04.2, P04.5-P04.9, P08-P09, P19-P19.9, P29-P29.9, P50-P51.9, P53-P54.9, P60-P61.1, P61.3-P61.9, P70-P70.1, P70.3-P72.9, P74-P76.9, P78, P80-P81.9, P83-P84, P92-P92.9, P94-P94.9, P96, P96.3-P96.4, P96.8
Neonatal preterm birth	P01.0-P01.1, P05-P05.9, P07-P07.3, P22-P22.9, P25-P28.9, P52-P52.9, P61.2, P77-P77.9, P78.0-P78.9
Neonatal encephalopathy due to birth asphyxia and trauma	P01.7, P02-P03.9, P10-P15.9, P20-P21.9, P24-P24.9, P90-P91.9
Neonatal sepsis and other neonatal infections	P36-P36.9, P38-P39.9
Hemolytic disease and other neonatal jaundice	P55-P59.9
Still Born	P95-P95.9
Urogenital congenital anomalies	P96.0, Q50-Q60.6, Q63-Q64.9



Map of ICD10 codes to GBD cause	
GBD cause name	ICD codes
Neural tube defects	Q00-Q01.9, Q05-Q05.9
Congenital heart anomalies	Q20-Q28.9
Orofacial clefts	Q35-Q36, Q37-Q37.9
Digestive congenital anomalies	Q38-Q45.9, Q79.0-Q79.5
Congenital musculoskeletal and limb anomalies	Q65-Q79, Q79.6-Q79.9
Other chromosomal abnormalities	Q87-Q87.8, Q91-Q93.9, Q95-Q95.9, Q97-Q97.9, Q99-Q99.8
Down syndrome	Q90-Q90.9
Turner syndrome	Q96-Q96.9
Klinefelter syndrome	Q98-Q98.9
Sudden infant death syndrome	R95-R95.9
Conflict and terrorism	U00-U03, Y38-Y38.9
Zika virus	U06-U06.9
COVID-19	U07-U07.2
Other drug-resistant infectious diseases	U82-U84, U85-U89, Z16-Z16.3
Other transport injuries	V00-V00.8, V05-V05.9, V81-V81.9, V83-V86.9, V88.2-V88.3, V90-V98.8
Pedestrian road injuries	V01-V04.9, V06-V09.9
Cyclist road injuries	V10-V19.9
Motorcyclist road injuries	V20-V29.9
Motor vehicle road injuries	V30-V79.9, V87.2-V87.3
Other road injuries	V80-V80.9, V82-V82.9

Map of ICD10 codes to GBD cause	
GBD cause name	ICD codes
Falls	W00-W19.9
Other exposure to mechanical forces	W20-W31.9, W35-W38.9, W40-W43.9, W45.0-W45.2, W46-W46.2, W49-W52
Unintentional firearm injuries	W32-W34.9
Other unintentional injuries	W39-W39.9, W77-W77.9, W81-W81.9, X50-X54.9, X57-X58.9
Foreign body in other body part	W44-W45, W45.3-W45.9
Non-venomous animal contact	W52.0-W62.9, W64-W64.9
Drowning	W65-W70.9, W73-W74.9
Pulmonary aspiration and foreign body in airway	W75-W75.9, W78-W80.9, W83-W84.9
Electrocution	W85-W87.9
Fire, heat, and hot substances	X00-X06.9, X08-X19.9
Contact with snakes and lizards	X20-X20.9
Contact with spiders	X21-X21.9
Contact with scorpions	X22-X22.9
Contact with hornets, wasps and bees	X23-X23.9
Contact with other venomous	X24-X29.9
Victim of lightning	X33-X33.9
Earthquake	X34-X34.9
Volcanic eruption	X35-X35.9
Avalanche, landslide and other earth movements	X36-X36.9
Cataclysmic storm	X37-X37.9

Map of ICD10 codes to GBD cause	
GBD cause name	ICD codes
Flood	X38-X38.9
Poisoning by carbon monoxide	X47-X47.9
Poisoning by pesticides	X48-X48.9
Self-harm by other specified means	X60-X64.9, X66-X67.9, X69-X71.9, X75-X75.9, X77-X83.9, Y87.0
Self-harm by poisoning pesticides	X68-X68.9
Self-harm by firearm	X72-X74.9
Self-harm by fire, heat, and hot substances	X76-X76.9
Physical violence by other means	X85-X92.9, X96-X98.9, Y00-Y04.9, Y06-Y08.9, Y87.1
Physical violence by firearm	X93-X95.9
Physical violence by sharp object	X99-X99.9
Sexual violence	Y05-Y05.9
Police conflict and executions	Y35-Y35.9, Y89.0
Military operations	Y36-Y37.9, Y89.1
Multidrug-resistant tuberculosis without extensive drug resistance	U84.3

# Map of ICD9 codes to GBD cause

GBD cause name	ICD codes
Garbage Code	000-000.9, 002, 030-031.9, 038-039.9, 040.0, 041.1-041.9, 067-070, 070.3-070.9, 076-078.2, 078.8-078.9, 079.8-079.9, 085, 085.1-085.9, 088.0-088.7, 089-089.9, 105-119, 125-125.3, 126-126.9, 127.2-127.9, 130-132.9, 133.8-134.9, 136.3-136.9, 139.1-139.9, 149-149.9, 155.2, 159-159.9, 165-169, 176-179.9, 183.9-184, 184.5, 184.9, 187, 187.9, 189, 189.9, 190.9, 194-194.0, 194.9-199.9, 202.9, 204.1, 204.5-204.9, 205.8-205.9, 206.2-206.9, 209, 209.2-209.3, 209.6-210, 211, 211.9-212, 212.9, 214-216.9, 221, 221.9-222, 222.9-223, 223.9, 229, 229.1, 229.9-230.0, 230.9-231, 231.8-231.9, 233, 233.3, 233.6, 233.9-234, 234.9-235, 235.1-235.3, 235.5, 235.9-236, 236.3, 236.6, 236.9, 237.4, 238, 239-239.1, 239.5, 239.7-239.9, 244, 244.9, 247-250.9, 259.2, 264-264.9, 274-274.9, 276.0-276.9, 277.3, 278, 279-281, 285-285.9, 286.6, 289.1-289.3, 289.8-289.9, 293-294.0, 295-302.9, 304, 304.9-305, 305.1, 305.9-307.0, 307.2-320, 320.9, 324-327.1, 328-329, 331.3-331.4, 332.1-332.9, 338-339.8, 342-344.9, 346-348.9, 349.9-353.6, 354-355.9, 357, 357.2, 357.8-357.9, 360-376, 376.2-380.9, 384-389.9, 399-401.9, 405-409.4, 415-416, 416.2-416.9, 418-419.9, 423.0, 424, 424.4-424.5, 424.9-425, 425.9-427, 427.4-427.5, 427.9-429, 429.1-429.9, 436-437, 437.3, 437.9-440.1, 440.3, 440.8-440.9, 444-445.8, 458-458.9, 459.0, 459.5-459.9, 464.5, 465, 465.9, 482.9-483, 484, 484.8-486.9, 490-490.9, 494-494.9, 505-505.9, 507-507.9, 510-514.9, 515.0-515.9, 518-518.5, 518.8, 519, 519.8-529.9, 530.1, 530.7-530.9, 536.2-536.3, 536.8-536.9, 537.7, 537.9, 544-549, 559-559.0, 560.4-560.7, 561, 562.2-563, 564.8-564.9, 567-569, 569.8-570.9, 572-572.1, 573.1-573.3, 578-578.9, 584-584.9, 586-587.9, 591-591.9, 593.9, 599.7, 599.9-600.9, 603-603.9, 605-608.1, 608.3-609, 611-616.9, 619-619.9, 621-621.3, 622-622.0, 622.8-628.9, 629.9, 637-637.9, 639-639.9, 690-693.9, 695.8-706.9, 708-709.9, 712-713.8, 714.4, 715-716, 716.1-730.0, 730.2-730.3, 730.7-731.9, 733, 733.2-739.9, 749.1, 759, 759.9, 770.0, 779.9-788, 788.1-790.2, 790.4-797.9, 798.1-E80, E800.8-E800.9, E801.8-E801.9, E802.8-E802.9, E803.8-E803.9, E804.8-E804.9, E805.8-E805.9, E806.8-E806.9, E807.8-E810, E810.8-E811, E811.8-E812, E812.8-E813, E813.8-E814, E814.8-E815, E815.8-E816, E816.8-E817, E817.8-E818, E818.8-E819, E819.8-E820, E820.8-E821, E821.8-E822, E822.8-E823, E823.8-E824, E824.8-E825, E825.8-E826, E826.8-E827, E827.8-E828, E828.8-E829, E829.8-E83, E839, E85, E850.3-E855.9, E858-E859, E866-E866.9, E87, E877, E88, E887-E887.0, E928.9-E929.0, E929.8-E929.9, E980-E989, ZZZ
Cholera	001-001.9
Typhoid fever	002.0
Paratyphoid fever	002.1-002.9
Invasive Non-typhoidal Salmonella (iNTS)	003-003.7
Other salmonella infections	003.8-003.9
Shigellosis	004-004.9
Other bacterial foodborne diarrhea	005-005.9
Amoebiasis	006-006.9
Other intestinal infectious diseases	007-007.3, 007.9-008.1
Cryptosporidiosis	007.4-007.7
Other diarrheal diseases	007.8, 008.3-009.9
Aeromonas	008.2
Respiratory tuberculosis	010-012.9
Tuberculosis of nervous system	013-013.9, 320.4
Tuberculosis of intestines, peritoneum and mesenteric glands	014-014.9
Tuberculosis of bones and joints	015-015.9

# Map of ICD9 codes to GBD cause

GBD cause name	ICD codes
Tuberculosis of genitourinary system	016-016.9
Tuberculosis of other organs	017-017.1, 017.3-019.9
Tuberculous peripheral lymphadenopathy	017.2
Zoonotic bacterial diseases	020-029, 073-073.9, 078.3, 100-100.9, 484.4-484.5
Diphtheria	032-032.9
Pertussis	033-033.9, 484.3
Other unspecified infectious diseases	034, 034.1-034.9, 040, 040.1-041.0, 046-046.9, 050-051.9, 057-059.9, 074-075.9, 078.4-078.7, 079-079.5, 079.7, 101-101.6, 104-104.9, 136-136.2, 139, 323.0-323.3, 390-390.9, 392, 392.9, 771.0-771.2
Upper respiratory infections	034.0, 460-464.4, 464.8-464.9, 465.0-465.8, 475-475.9, 476.9
Pyoderma	035-035.9, 102-103.9, 376.0-376.1, 457.2-457.3, 680-680.9, 683-689
Meningococcal meningitis	036-036.9
Tetanus	037-037.9, 771.3
HIV/AIDS resulting in other diseases	042-044.9
Poliomyelitis	045-045.9, 138
Viral meningitis	047-049.9
Varicella and herpes zoster	052-053.9
Non-genital herpes infection	054-054.0, 054.2-054.9
Genital herpes	054.1
Measles	055-055.9, 484.0
Rubella	056-056.9
Yellow fever	060-060.9

Map of ICD9 codes to GBD cause	
GBD cause name	ICD codes
Dengue	061-061.8
Encephalitis	062-064.9, 139.0, 323, 323.4-323.9
Other neglected tropical diseases	065-066.9, 080-083.9, 087-088, 088.8-088.9, 122.5-122.7, 123-123.0, 123.2-124.9, 125.4-125.6, 125.9, 127, 127.1, 128-129.0
Acute hepatitis A	070.0-070.1
Acute hepatitis B	070.2
Rabies	071-071.9
Mumps	072-072.9
Respiratory syncytial virus pneumonia	079.6, 480.1
Malaria	084-084.9
Visceral leishmaniasis	085.0
Chagas disease	086-086.2, 086.9, 425.6
African trypanosomiasis	086.3-086.5
Syphilis	090-097.9
Gonococcal infection	098-098.9
Other sexually transmitted infections	099-099.9
Schistosomiasis	120-120.9
Food-borne trematodiasis	121-121.9
Cystic echinococcosis	122-122.4, 122.8-122.9
Cysticercosis	123.1
Guinea worm disease	125.7

Map of ICD9 codes to GBD cause	
GBD cause name	ICD codes
Ascariasis	127.0
Scabies	133-133.6
Interstitial lung disease and pulmonary sarcoidosis	135-135.9, 515, 516-516.9
Drug-susceptible tuberculosis	137-137.9, 138.0-138.9, 730.4-730.6
Lip and oral cavity cancer	140-145.9, 210.0-210.6, 235.0
Other pharynx cancer	146-146.9, 148-148.9
Nasopharynx cancer	147-147.9, 210.7-210.9
Esophageal cancer	150-150.9, 211.0, 230.1
Stomach cancer	151-151.9, 211.1, 230.2
Other malignant neoplasms (internal)	152-152.9, 158-158.9, 160-160.9, 163-164.9, 183.2-183.8, 184.0-184.4, 184.8, 187.1-187.8, 189.2-189.4, 189.8, 194.1, 194.5-194.8, 209.0, 209.4, 211.2, 211.8, 212.0, 212.4-212.8, 213-213.9, 221.0-221.8, 222.1, 222.8, 223.2, 223.8, 224-224.9, 227-228.9, 229.0, 229.8, 230.7-230.8, 233.4-233.5, 234.0-234.8, 235.4, 235.8, 236.1, 238.0-238.1, 239.2
Colon and rectum cancer	153-154.9, 209.1, 209.5, 211.3-211.4, 230.3-230.6, 569.0
Liver cancer	155-155.1, 155.3-155.9, 211.5
Gallbladder and biliary tract cancer	156-156.9
Pancreatic cancer	157-157.9, 211.6-211.7
Larynx cancer	161-161.9, 212.1, 231.0, 235.6
Tracheal, bronchus, and lung cancer	162-162.9, 212.2-212.3, 231.1-231.2, 235.7
Malignant neoplasm of bone and articular cartilage	170-170.9
Soft tissue and other extraosseous sarcomas	171-171.9
Malignant skin melanoma	172-172.9
Non-melanoma skin cancer (squamous-cell carcinoma)	173-173.9, 222.4, 232-232.9, 238.2

# Map of ICD9 codes to GBD cause

GBD cause name	ICD codes
Breast cancer	174-175.9, 217-217.8, 233.0, 238.3, 239.3, 610-610.9
Cervical cancer	180-180.9, 219.0, 233.1, 622.1-622.2, 622.7
Other direct maternal disorders	181-181.9, 643-645.2, 650-651.9, 654-659.2, 659.4-659.9, 662-664.9, 665.4-665.9, 667-669.9, 671-679.1
Uterine cancer	182-182.9, 233.2
Ovarian cancer	183-183.0, 220-220.9, 236.2
Prostate cancer	185-185.9, 222.2, 236.5
Testicular cancer	186-186.9, 222.0, 222.3, 236.4
Bladder cancer	188-188.9, 223.3, 233.7, 236.7, 239.4
Kidney cancer	189.0-189.1, 189.5-189.6, 223.0-223.1
Other eye cancers	190-190.4, 190.6-190.8
Retinoblastoma	190.5
Brain and central nervous system cancer	191-192.9, 194.3-194.4
Thyroid cancer	193-193.9, 226-226.9
Other non-Hodgkin lymphoma	200-200.1, 200.3-200.9, 202-202.8
Burkitt lymphoma	200.2
Hodgkin lymphoma	201-201.9
Multiple myeloma	203-203.9
Leukemia	204, 205, 206, 207, 208-208.9
Acute lymphoid leukemia	204.0, 204.2
Acute myeloid leukemia	205.0, 205.2-205.3, 206.0, 207.0, 207.2-207.8



# Map of ICD9 codes to GBD cause

GBD cause name	ICD codes
Chronic myeloid leukemia	205.1
Other leukemia	206.1, 207.1, 207.9
Uterine fibroids	218-219, 219.1-219.9, 236.0
Benign and in situ CNS neoplasms	225-225.9, 237-237.3, 237.5-237.9, 239.6
Myelodysplastic, myeloproliferative, and other hematopoietic neoplasms	238.4-238.9
Hypothyroidism	240-241.9, 243-243.9, 245-245.9
Hyperthyroidism	242-242.9, 775.3
Post procedural or drug treatment disorders	244.0-244.1, 244.3-244.8, 251.3, 253.7, 357.6, 518.7, 519.0, 536.4, 539-539.9, 551.2, 552.2, 553.2, 558.1, 564.2-564.4, 569.6, 579.3, 598.2, 779.4-779.5
Other nutritional deficiencies	244.2, 265-269.9, 281.0-281.9, 716.0
Other endocrine, metabolic, blood, and immune disorders	246-246.9, 251-251.2, 251.4-253.6, 253.8-256.3, 256.8-259.1, 259.3-259.9, 270-271.9, 273-273.9, 275-276, 277, 277.1-277.2, 277.4-277.9, 278.2-278.8, 286-286.5, 286.7-289.0, 289.4-289.7
Polycystic ovarian syndrome	256.4
Protein-energy malnutrition	260-263.9
Lipoprotein metabolism and other lipidaemias disorders	272-272.9
Cystic fibrosis	277.0
Obesity	278.0-278.1
Other hemoglobinopathies and hemolytic anemias	282-282.1, 282.7-283.9
G6PD deficiency	282.2-282.3
Thalassemias	282.4-282.5
Sickle cell disorders	282.6
Aplastic anemias	284-284.9

Map of ICD9 codes to GBD cause	
GBD cause name	ICD codes
Alzheimer's disease and other dementias	290-290.9, 294.1-294.9, 331-331.2
Alcohol use disorders	291-291.9, 303-303.9, 305.0, 357.5, 790.3, E860-E860.1
Other drug use disorders	292-292.9, 304.1, 304.5-304.8, 305.3-305.4, 305.8, 760.7
Opioid use disorders	304.0, 305.5, E850.0-E850.2
Cocaine use disorders	304.2, 305.6
Cannabis use disorders	304.3, 305.2
Amphetamine use disorders	304.4, 305.7
Anorexia nervosa	307.1
H influenzae type B meningitis	320.0
Pneumococcal meningitis	320.1
Other meningitis	320.2-320.3, 320.5-320.8, 321-322.9
Sleep apnea	327.2-327.8
Other neurological disorders	330-330.9, 331.5-331.9, 333-334.9, 335.3, 336-337.9, 341-341.9, 349, 349.2-349.8, 353.8-353.9, 356-356.9, 357.0-357.1, 357.3-357.4, 357.7, 358-359.9, 775.2
Parkinson's disease	332-332.0
Motor neuron disease	335-335.2, 335.8-335.9
Multiple sclerosis	340-340.9
Idiopathic epilepsy	345-345.9
Adverse effects of medical treatment	349.0-349.1, 457.0, E870-E876.9, E878-E879.9, E930-E949.9
Otitis media	381-383.9
Rheumatic heart disease	391-391.9, 392.0, 393-398.9

Map of ICD9 codes to GBD cause	
GBD cause name	ICD codes
Hypertensive heart disease	402-402.9
Chronic kidney disease due to hypertension	403-404.9
Acute myocardial infarction	410-411.9
Chronic ischemic heart disease	412-412.9, 414-414.9
Angina	413-413.9
Pulmonary Arterial Hypertension	416.0
Other musculoskeletal disorders	416.1, 437.4, 446-446.9, 710, 710.1-710.9, 732-732.9
Other cardiovascular and circulatory diseases (internal)	417-417.9, 420-420.9, 423, 423.1-423.9, 427.0-427.2, 427.6-427.8, 442-443, 447-450, 456, 456.3, 456.8-457, 457.1, 457.8-457.9, 459, 459.2-459.3
Endocarditis	421-421.9
Myocarditis	422-422.9
Non-rheumatic degenerative mitral valve disease	424.0
Non-rheumatic calcific aortic valve disease	424.1
Other non-rheumatic valve diseases	424.2-424.3, 424.8
Other cardiomyopathy	425.0-425.4, 425.7-425.8, 429.0
Alcoholic cardiomyopathy	425.5
Atrial fibrillation and flutter	427.3
Subarachnoid hemorrhage	430-430.9
Intracerebral hemorrhage	431-432.9, 437.2
Ischemic stroke	433-435.9, 437.0-437.1, 437.5-437.8
Lower extremity peripheral arterial disease	440.2, 440.4, 443.0-443.9

## Map of ICD9 codes to GBD cause

GBD cause name	ICD codes
Aortic aneurysm	441-441.9
Phlebitis and thrombophlebitis	451-453.9, 459.1
Varicose veins	454-454.9, 456.4-456.6
Hemorrhoids, anal fissure, anal abscess, and fistula	455-455.9, 565-566.9, 569.1-569.4
Cirrhosis and other chronic liver diseases	456.0-456.2, 571-571.9, 572.2-573.0, 573.4-573.9
Other lower respiratory infections	466-469, 470.0, 480-480.0, 480.2-480.9, 482-482.1, 482.3-482.8, 483.0-483.9, 484.1-484.2, 484.6-484.7
Other chronic respiratory diseases	470, 470.9, 478.3-479, 495-495.9, 506-506.9, 508-509, 517-517.8, 518.6, 518.9, 519.1-519.4
Chronic diseases of upper respiratory system	471-474.9, 476-476.1, 478-478.2
Allergic disorders of upper respiratory system	477-477.9
Pneumococcal pneumonia	481-481.9
H influenzae type B pneumonia	482.2
Influenza	487-489
Chronic obstructive pulmonary disease	491-492.9, 496-499
Asthma	493-493.9
Coal workers pneumoconiosis	500-500.9, 501.0-501.9
Asbestosis	501
Silicosis	502-502.9, 503.0, 503.9
Other pneumoconiosis	503, 503.1, 504-504.9
Esophageal diseases	530-530.0, 530.2-530.6
Peptic ulcer disease	531-534.9

# Map of ICD9 codes to GBD cause

GBD cause name	ICD codes
Gastritis and duodenitis	535-535.9
Other digestive diseases	536-536.1, 537-537.6, 537.8, 538, 543-543.9, 564.1, 564.5, 569.7, 579, 579.1-579.2, 579.8-579.9
Appendicitis	540-542.9
Inguinal hernia	550-550.9
Femoral hernia	551-551.0, 552.0, 553.0, 553.6
Abdominal and other hernia	551.1, 552.1, 553.1
Diaphragmatic hernia	551.3-552, 552.3, 553.3
Inguinal, femoral, and abdominal hernia	552.4-553, 553.8-553.9
Crohn's disease	555-555.9
Ulcerative colitis	556-556.9, 558.0
Vascular intestinal disorders	557-557.9
Inflammatory bowel disease	558, 569.5
Diarrheal diseases	558.2-558.9
Paralytic ileus and intestinal obstruction	560-560.3, 560.8-560.9
Diverticular disease of intestines	562-562.1
Constipation	564-564.0, 564.6-564.7
Gallbladder and biliary diseases	574-576.9
Pancreatitis	577-577.9, 579.4
Celiac disease	579.0
Acute glomerulonephritis	580-580.9

Map of ICD9 codes to GBD cause	
GBD cause name	ICD codes
Chronic kidney disease due to glomerulonephritis	581-583.9
Chronic kidney disease	585-585.9
Other urinary diseases	588-588.9, 593-593.8, 596-596.9, 599.8, 608.2
Chronic kidney disease due to other and unspecified causes	589-589.9, 753-753.3
Urinary tract infections and interstitial nephritis	590-590.9, 595-595.9, 597-597.9, 599.0
Urolithiasis	592-592.9, 594-594.9, 788.0
Urethral stricture, phimosis, and paraphimosis	598-598.1, 598.8-599, 599.1-599.6
Prostatitis and epididymitis	601-602.9, 604-604.9
Endometriosis	617-617.9
Genital prolapse	618-618.9
Other gynecological diseases	620-620.9, 621.4-621.9, 622.3-622.6, 629-629.8
Spontaneous abortion	630-632.9, 634-634.9, 646.3
Ectopic pregnancy	633-633.9
Induced abortion	635-636.9, 638-638.9
Maternal hemorrhage	640-641.9, 661-661.9, 665, 666-666.9
Maternal hypertensive disorders	642-642.9
Indirect maternal deaths	646-646.2, 646.4-649.9
Maternal obstructed labor and uterine rupture	652-653.9, 660-660.9, 665.0-665.3
Maternal sepsis and other maternal infections	659.3, 670-670.9
Cellulitis	681-682.9

Map of ICD9 codes to GBD cause	
GBD cause name	ICD codes
Other skin and subcutaneous diseases	694-695.3
Systemic and discoid lupus erythematosus	695.4-695.5, 710.0
Decubitus ulcer	707-707.9
Pyogenic and reactive arthritis	711-711.9
Rheumatoid arthritis	714-714.3, 714.8-714.9
Osteomyelitis non-traumatic	730.1
Osteoporosis and related pathological fracture	733.0-733.1
Neural tube defects	740-741.9, 742.0
Other congenital birth defects	742, 742.1-742.4, 742.8-744.9, 748-748.9, 757-757.9, 759.0-759.8
Congenital musculoskeletal and limb anomalies	742.5, 754-756.5, 756.8-756.9
Congenital heart anomalies	745-747.9
Orofacial clefts	749-749.0, 749.2-749.9
Digestive congenital anomalies	750-751.9, 756.6-756.7
Urogenital congenital anomalies	752-752.9, 753.4-753.9
Other chromosomal abnormalities	758, 758.1-758.6, 758.8-758.9
Down syndrome	758.0
Klinefelter syndrome	758.7
Other neonatal disorders	760-760.6, 760.8-761, 761.2-761.6, 766-766.9, 770, 771, 772-772.0, 775-775.0, 775.4-776.5, 776.7-777, 778-779, 779.3, 779.6-779.8
Neonatal preterm birth	761.0-761.1, 764-765.9, 769-769.9, 770.2-770.9, 772.1-772.9, 776.6, 777.0-777.9
Neonatal encephalopathy due to birth asphyxia and trauma	761.7-763.9, 767-768, 768.2-768.9, 770.1, 779.0-779.2

# Map of ICD9 codes to GBD cause

GBD cause name	ICD codes
Still Born	768.0-768.1
Neonatal sepsis and other neonatal infections	771.4-771.9
Hemolytic disease and other neonatal jaundice	773-774.9
Diabetes mellitus type 1	775.1
Sudden infant death syndrome	798-798.0
Other transport injuries	E800-E800.2, E801-E801.2, E802-E802.2, E803-E803.2, E804-E804.2, E805-E805.2, E806-E806.2, E807-E807.2, E820.7, E821.7, E826.2, E827.2, E828.2, E830-E838.9, E840-E849.9, E929.1
Cyclist road injuries	E800.3, E801.3, E802.3, E803.3, E804.3, E805.3, E806.3, E807.3, E810.6, E811.6, E812.6, E813.6, E814.6, E815.6, E816.6, E817.6, E818.6, E819.6, E820.6, E821.6, E822.6, E823.6, E824.6, E825.6, E826.1
Motor vehicle road injuries	E810.0-E810.1, E811.0-E811.1, E812.0-E812.1, E813.0-E813.1, E814.0-E814.1, E815.0-E815.1, E816.0-E816.1, E817.0-E817.1, E818.0-E818.1, E819.0-E819.1, E820.0-E820.1, E821.0-E821.1, E822.0-E822.1, E823.0-E823.1, E824.0-E824.1, E825.0-E825.1
Motorcyclist road injuries	E810.2-E810.3, E811.2-E811.3, E812.2-E812.3, E813.2-E813.3, E814.2-E814.3, E815.2-E815.3, E816.2-E816.3, E817.2-E817.3, E818.2-E818.3, E819.2-E819.3, E820.2-E820.3, E821.2-E821.3, E822.2-E822.3, E823.2-E823.3, E824.2-E824.3, E825.2-E825.3
Other road injuries	E810.4-E810.5, E811.4-E811.5, E812.4-E812.5, E813.4-E813.5, E814.4-E814.5, E815.4-E815.5, E816.4-E816.5, E817.4-E817.5, E818.4-E818.5, E819.4-E819.5, E820.4-E820.5, E821.4-E821.5, E822.4-E822.5, E823.4-E823.5, E824.4-E824.5, E825.4-E825.5, E826.3-E826.4, E827.3-E827.4, E828.4, E829.4
Pedestrian road injuries	E810.7, E811.7, E812.7, E813.7, E814.7, E815.7, E816.7, E817.7, E818.7, E819.7, E822.7, E823.7, E824.7, E825.7, E826.0, E827.0, E828.0, E829.0
Drug use disorders	E850
Poisoning by other means	E856-E857.0, E860.2-E861.9, E864-E865.9, E867-E867.0, E869.0-E869.8, E929.2
Poisoning by carbon monoxide	E862-E862.9, E868-E869, E869.9
Poisoning by pesticides	E863-E863.9
Falls	E880-E886.9, E888-E888.9, E929.3
Fire, heat, and hot substances	E890-E899.0, E924-E924.9, E929.4
Environmental heat and cold exposure	E900-E902.9, E926-E926.9, E929.5
Other unintentional injuries	E903-E904.9, E913.2-E913.3, E923-E923.9, E927-E928.0, E928.8
Venomous animal contact	E905



Map of ICD9 codes to GBD cause	
GBD cause name	ICD codes
Contact with snakes and lizards	E905.0
Contact with spiders	E905.1
Contact with scorpions	E905.2
Contact with hornets, wasps and bees	E905.3
Contact with other venomous	E905.4-E905.9
Non-venomous animal contact	E906-E906.9
Victim of lightning	E907-E907.0
Cataclysmic storm	E908-E908.1, E908.3-E908.9
Flood	E908.2
Earthquake	E909-E909.0
Volcanic eruption	E909.1
Avalanche, landslide and other earth movements	E909.2
Other forms of forces of nature	E909.3-E909.9
Drowning	E910-E910.9
Pulmonary aspiration and foreign body in airway	E911-E913.1, E913.8-E913.9
Foreign body in other body part	E914-E915.0
Other exposure to mechanical forces	E916-E921.9, E928.1-E928.6
Unintentional firearm injuries	E922-E922.9, E928.7
Electrocution	E925-E925.9
Self-harm by other specified means	E950-E952.9, E954, E956-E958.0, E958.2-E959

Map of ICD9 codes to GBD cause	
GBD cause name	ICD codes
Self-harm by hanging, strangulation, and suffocation	E953-E953.9
Self-harm by firearm	E955-E955.9
Self-harm by fire, heat, and hot substances	E958.1
Sexual violence	E960-E960.1
Physical violence by other means	E961-E964, E965.5-E965.9, E967-E969
Physical violence by firearm	E965-E965.4
Physical violence by sharp object	E966
Police conflict and executions	E970-E978
Terrorism	E979-E979.9
Military operations	E990-E999.0
Conflict and terrorism	E999.1

# Appendix Figure 4

ICD10 Codes by Garbage Package and Class		
Garbage Package	Garbage Class	ICD Codes
All, Ill Defined code for causes of death	1	A59-A59.9, A71-A71.9, A74-A74.0, B07-B07.9, B30-B30.9, B35-B36.9, B85-B85.4, B87-B88.9, B94-B94.0, D68, E15-E16, E50-E50.9, E64, E64.1, F06, F06.3-F06.4, F07, F07.2, F09-F09.9, F30-F49, F51-F99.0, G32-G32.8, G43-G44.2, G44.4-G44.8, G47-G47.2, G47.4-G47.9, G50-G60.9, G62-G62.0, G62.2-G65.2, G89-G89.4, G99-H05, H05.2-H69.9, H71-H99, K00-K19, K30, L20-L30.9, L40-L50.9, L52-L54.8, L56-L56.2, L56.4-L56.5, L57-L57.9, L59-L68.9, L70-L76.8, L80-L87.9, L90-L92.9, L94-L96, L98, L98.5-L99.8, M04, M10-M12.0, M12.2-M29, M37-M39, M43, M43.2-M49, M49.2-M65, M65.1-M71, M71.2-M72.4, M72.8-M73, M73.8-M79.9, M83-M85.9, M87, M87.2-M87.9, M89, M89.1-M89.4, M90-M99.9, N32, N32.8-N33.8, N35-N35.9, N37-N37.8, N39, N39.3-N39.8, N42-N44, N44.1-N44.8, N46-N48.9, N50-N53.9, N61-N64.9, N91-N91.5, N95, N95.1-N95.9, N97-N97.9, R07-R07.0, R08-R09, R09.3, R12-R12.0, R14-R15.9, R19-R19.6, R19.8-R23, R23.1-R30.9, R32-R39.9, R41-R49.9, R51-R53.8, R55-R55.0, R58-R63.3, R63.5, R63.8-R65.1, R66-R72.9, R74-R78, R78.6-R94.8, R96-R99.9, U05, U08-U81, U89-U99, Z00-Z15.8, Z17-ZB0
Senility	1	R54-R54.9
Unspecified Infectious Diseases	2	A14-A14.9, A29-A30.9, A45-A45.9, A47, A61-A62, A72-A73, A76, A97, B11-B14, B28-B29, B31-B32.4, B61-B62, B68-B68.9, B73-B74.2, B76-B76.9, B78-B81.8, B84, B92-B94, B94.8-B95, B95.6-B97.1, B97.3, B97.7-B99.9
Unspecified Bacterial Diseases	2	A48, A48.8-A49, A49.3-A49.9
Unspecified STD	3	A64-A64.0
Unspecified Hemorrhagic Fever	3	A99-A99.0
Unspecified Viral Diseases	2	B08-B09, B34-B34.1, B34.3-B34.9, G93, G93.3
Unspecified Protozoal Diseases	4	B64
Unspecified Intestinal Parasite	4	B82-B83, B83.9
Unspecified Parasitic Diseases	3	B89
Typhoid or paratyphoid fevers	3	A01
Haemophilus influenza infection, unspecified site	3	A49, A49.2
Unspecified Malaria	4	B54-B54.0, P37, P37.3-P37.4
Unspecified Oropharynx Cancer	3	C1, C14-C14.9, D0-D00.0, D10, D10.9, D37-D37.0
Unspecified GI Cancer	3	C2, C26-C3, C35-C36, D0-D00, D01, D01.4-D01.9, D13, D13.9, D37, D37.6-D37.9, D4, D49-D49.0
Unspecified Respiratory Cancer	3	C3, C39-C39.9, D0, D02, D02.4-D02.9, D14, D14.4, D38, D38.6, D4, D49, D49.1
Unspecified Uterus Cancer	3	C5, C55-C55.9
Unspecified Female Genital Cancer	3	C5, C57, C57.9, C59-C6, D0, D07, D07.3, D28, D28.9, D39-D39.0, D39.7, D39.9, N84, N84.2-N84.8
Unspecified Male Genital Cancer	3	C6, C63, C63.9, D0, D07, D07.6, D29, D29.9, D4-D40, D40.9
Unspecified Urinary Cancer	3	C6, C68, C68.9, D0, D09, D09.1, D30, D30.9, D4, D41, D41.9
Unspecified Endocrine Cancer	3	C7, C75, C75.9, D4, D44, D44.9, D49, D49.7, E34-E34.0
Unspecified Site Cancer	3	C4, C42, C7, C76, C76.7-C77, C77.3-C77.4, C77.8-C78, C79, C79.2-C80.9, C87, C97-D0, D08-D09, D09.7, D09.9, D36-D36.0, D36.9, D4, D48, D48.7-D49, D49.8-D49.9, D54
Head and Neck Cancer	3	C7, C76-C76.1, C77-C77.1, C78-C78.3, D17-D21.9
Abdomen and Pelvis Cancer	3	C7, C76, C76.2-C76.3, C77, C77.2, C77.5, C78, C78.4-C79.1
Unspecified genital Cancer	3	D0, D07, D4, D49, D49.5
Acquired hemolytic anemia	2	D59, D59.4, D59.8-D59.9
Unspecified Blood Diseases	3	D75, D75.9, D79, D85, D87-D88, D90-D99
Unspecified Thyroid Diseases	3	E07, E07.8-E07.9
Unspecified Diabetes Related cause	3	E08-E08.9
Unspecified Endo/Metabolic Diseases	3	E17-E19, E35, E37-E39, E47-E49, E62, E69, E90-E998
Unspecified Endocrine Diseases	3	E34, E34.9-E35.8
Unspecified Mental/Brain Disorders	3	F06-F06.1, F06.5-F07.0, F07.8-F08
Unspecified Eating Disorders	3	F50, F50.8-F50.9
Unspecified Meningitis	4	G00, G00.9-G03, G03.9
Unspecified CNS Infection	3	G09-G09.9
Unspecified CNS Diseases	3	G15-G19, G21, G21.2, G21.4-G22.0, G27-G29, G33-G34, G38-G39, G42, G48-G49, G66-G69, G74-G79, G84-G88
External Causes UDI, type unspecified	2	G44, G44.3, G91, G91.3, R58, T07, W47-W47.7, Y24, Y24.5-Y24.7, Y25, Y25.2, Y26, Y26.3, Y27, Y27.4-Y27.5, Y28, Y28.3, Y28.5, Y29, Y29.3, Y33-Y34.9, Y86-Y87, Y87.2, Y89, Y89.9-Y99.9
Unspecified Brain Diseases	3	G93, G93.8-G94, G96-G96.9, G98-G98.9
CNS Fluid Diseases	3	E87, E87.7
Unspecified CNS sign and symptom	3	F04-F05.9
CNS Abscess	1	G06-G08.0
Unspecified cardiovascular diseases	3	I00-I00.0, I03, I04, I14, I16-I18, I19, I29-I29.9, I51, I51.6, I52-I59, I90-I94, I96-I96.9, I98, I98.4-I98.8, I99-ID5.9
Cerebral Cysts	2	G93-G93.0

ICD10 Codes by Garbage Package and Class		
Garbage Package	Garbage Class	ICD Codes
Hypertension	2	I10-I10.9, I15-I15.9, I67, I67.4, R03-R03.0, R04-R04.0
Pulmonary Embolism	1	I26-I26.9
right heart failure and pulmonary heart disease	2	I27, I27.8-I27.9
Sepsis (Non- maternal and neonatal sepsis)	1	A40-A41.9, A48-A48.0, A48.3, A49-A49.1, D65-D65.9, I76, R02-R02.9, R50-R50.1, R50.8-R50.9, R56-R56.0, R65, R65.2
Amyloidosis	1	E85, E85.3-E85.9
Cerebral Palsy	1	G80-G80.9, G82, G82.1, G82.4, G83-G83.0, G83.8
Left heart failure	1	I50, I50.2-I50.4
Unspecified Heart Diseases	3	I51, I51.7-I51.9
Unspecified type of Stroke	4	I64-I64.9, I67, I67.8-I68, I68.8-I69, I69.4-I69.9
Atherosclerosis	2	I70-I70.0
Arterial Embolism	2	I74-I75.8
Unspecified upper respiratory infectious	3	J02, J02.9-J03, J03.9-J04, J04.3, J06, J06.9
Unspecified acute respiratory infectious	4	J07-J08, J23-J29
Unspecified lower respiratory infectious	4	J15, J15.9, J17-J19.6, J22-J22.9, P23, P23.5-P23.9
Unspecified chronic respiratory diseases	3	J48-J59, J71-J79, J81, J81.9, J83, J85, J85.9, J87-J90, J90.9, J93, J93.6, J97-J98.0, J98.4-J99.8
Unspecified Pneumoconiosis	4	J64-J64.9
Pneumonitis	1	J69-J69.9, J85-J85.3
Chronic respiratory failure	1	J96, J96.1-J96.8
Unspecified Digestive Diseases	3	K31, K31.9-K34, K39, K47, K48-K49, K53-K54, K69, K78-K79, K84, K87-K89, K92, K92.9-K93, K96-K99
Unspecified Intestine Diseases	3	K21-K22, K22.7, K63-K63.4, K63.8-K63.9
Alcoholic hepatic failure	3	K70, K70.4-K70.9
Gastrointestinal Bleeding	2	K92-K92.2
Unspecified Skin Diseases	3	L06-L07, L09, L15-L19, L31-L39, L69, L77-L79
Osteomyelitis	1	M86-M86.2, M86.5-M86.9
Unspecified Urinary Diseases	3	N09, N24, N28, N28.8-N28.9, N38-N39, N39.9-N40.9, N54-N59, N66-N69, N78-N79, N84, N84.9-N86, N88-N90.9
Urinary Obstruction Diseases	3	N13-N13.5, N13.7-N13.9, R31-R31.9
Acute kidney failure	1	N17, N19-N19.9
Fistula	1	N32, N32.1-N32.2, N82-N82.9
Unspecified Gynecologic Diseases	3	N92-N95.0
Maternal Complication	3	O08-O08.9
Unspecified Maternal Diseases	3	O17-O19, O27, O37-O39, O49-O59, O78-O79, O93-O95.9
Unspecified Neonatal Diseases	3	P06, P16-P17, P18, P30-P34.2, P40-P49, P62-P69, P73, P79, P82, P85, P89, P96, P96.9-P99.9
Unspecified Congenital Diseases	3	Q08-Q10.3, Q19, Q29, Q36-Q36.9, Q46-Q49, Q88-Q89, Q89.9, Q94
Unspecified Chromosomal Diseases	3	Q99, Q99.9
Unspecified sign and symptom for Heart diseases	3	R00-R01.2, R07, R07.1-R07.9
Unspecified sign and symptom for Respiratory diseases	2	R05-R06.9, R23-R23.0
Unspecified sign and symptom for GI diseases	2	R13-R13.9
Nausea and Vomiting	1	R11-R11.9
Exposure to unspecified factor X59	2	W47, W48, W63, W71-W72, W82, W95-W97, W98, X07, X55, X56, X59-X59.9
Unspecified Transport Injuries	4	V99-V99.0, Y85-Y85.9
Unspecified Road Injuries	4	V89-V89.9
Unspecified Traffic Injuries	4	V87-V87.1, V87.4-V88.1, V88.4-V88.9
Self-harm by unspecified means	4	X84-X84.9
Assault by unspecified means	4	Y09-Y09.9
Undetermined intent Poisoning by no opioid analgesics	1	Y10-Y10.9
Undetermined intent Poisoning by antiepileptic and psychotropic	1	Y11-Y11.9
Undetermined intent Poisoning by narcotics and psychodysleptics	1	Y12-Y12.9
Undetermined intent Poisoning by autonomic nervous system drugs	1	Y13-Y13.9
Undetermined intent Poisoning by unspecified drugs and biological drugs	1	Y14-Y14.9
Undetermined intent Poisoning by solvents and halogenated hydrocarbons	1	Y16-Y16.9
Undetermined intent Poisoning by other gases and vapors	1	Y17-Y17.9
Undetermined intent Poisoning by pesticides	1	Y18-Y18.9
Undetermined intent Poisoning by unspecified chemicals and noxious substances	1	Y19-Y19.9
Undetermined intent Strangulation	2	W76-W76.9, Y20-Y20.9
Undetermined intent Drowning	2	Y21-Y21.9
Undetermined intent shooting by Handgun Firearm	2	Y22-Y22.9
Undetermined intent shooting by rifle and larger firearm	2	Y23-Y23.2, Y23.4-Y23.7

ICD10 Codes by Garbage Package and Class		
Garbage Package	Garbage Class	ICD Codes
Undetermined intent shooting by unspecified firearm	2	Y23, Y23.3, Y23.8-Y24.4, Y24.8-Y24.9
Undetermined intent of Explosion	2	Y25-Y25.1, Y25.4-Y25.9
Undetermined intent of fire and flames	2	Y26-Y26.2, Y26.4-Y26.9
Undetermined intent of Hot Objects	2	Y27-Y27.3, Y27.6-Y27.9
Undetermined intent of Sharp Objects	2	Y28-Y28.2, Y28.4, Y28.6-Y28.9
Undetermined intent of Blunt Objects	2	Y29-Y29.0
Undetermined intent of Moving Objects	2	Y31-Y31.9
Undetermined intent of fall	2	Y29, Y29.1-Y29.2, Y29.4-Y30.9
Undetermined intent Poisoning by multiple or unspecified drug	1	F19-F19.9, X40-X44.9, X46-X46.9, X49-X49.9, X55-X55.
Undetermined intent of Crashing	2	Y32-Y32.9
Anemia in neoplastic Diseases	1	D63-D63.0
Anemia Unspecified	1	D50-D50.0, D50.9, D62-D63, D63.8-D64, D64.1-D64.9, D69, D69.9
Unspecified Cardiomyopathy	4	I42-I42.0, I42.9
Myocardial Degeneration	4	I51, I51.5
Female pelvic inflammatory diseases	2	N70-N71.9, N73-N74.0, N74.2-N74.8
Schizophrenia	1	F06, F06.2, F20-F23.9, F25-F29.9
Diabetes unspecified type	4	E12-E12.1, E12.3-E13.1, E13.3-E14.1, E14.3-E14.9, R73-R73.9
CKD due to diabetes Unspecified type	4	E12, E12.2, E13, E13.2, E14, E14.2
Unspecified Bronchitis and Bronchiectasis	3	J40-J40.9, J47-J47.9
Valve Disorder and Endocarditis	4	I37, I37.9
Primary or secondary Liver Cancer Unspecified	3	C2, C22, C22.9
Eye Unspecified Site Cancer	4	C6, C69, C69.9
Adrenal Unspecified Site Cancer-parent cause	3	C7, C74-C74.0
Chronic lymphocytic leukemia by age	4	C91, C91.1
Lymphoid leukemia unspecified by age	4	C91, C91.4-C91.5, C91.7-C91.9
myeloid leukemia by age	4	C92, C92.7-C93, C93.2, C93.5-C93.7, C93.9
Adrenal Unspecified Site Cancer in medulla or cortex	3	C7, C74, C74.1
Adrenal Site Cancer unspecified part of adrenal gland	3	C7, C74, C74.9
Heart failure unspecified right or left	2	I50, I50.8-I50.9, J81, J81.1
Hepatitis Unspecified	3	B17, B17.1, B17.8-B17.9, B19-B19.0, B19.2-B19.9, B94, B94.2
Hepatic Failure	1	K71-K71.6, K71.8-K72.9, R16-R18.9
Fluid, Electrolyte, Acid Base Disorders	1	E86-E87.6, E87.8-E87.9
Cardiac rhythm disorders	3	I44-I45.9, I49-I49.9
Assigned death to tobacco	2	F17-F17.9
Intermediate cause for CNS	1	G91-G91.2, G91.4-G93, G93.1-G93.2, G93.4-G93.6, G94-G94.8
Cachexia	1	R63, R63.4, R63.6, R64
Peritonitis & Acute Abdomen	1	K65-K66.1, K66.9, K68-K68.9, R10-R10.9
Acute Respiratory Failure	1	J80-J81.0, J96-J96.0, J96.9, J98, J98.1-J98.3
Shock, Cardiac Arrest, Coma	1	I46-I46.9, I95-I95.1, I95.8-I95.9, R03, R03.1, R09-R09.0, R09.2, R09.8, R40-R40.4, R55, R56, R56.1-R57.9
hepatitis B unspecified	4	B16, B16.9
Plegia	1	G81-G82.0, G82.2-G82.3, G82.5-G83, G83.1-G83.5, G83.9
Pleurisy, Pyothorax	1	J86-J86.9, J90-J90.0, J94-J94.1, J94.8-J94.9, R09, R09.1
Pneumothorax	1	I31, I31.2-I31.4, J93-J93.1, J93.8-J94, J94.2, R04, R04.1-R04.9
Non-follicular lymphoma, unspecified	3	C8, C83, C83.9, C85, C85.1, C85.9
Pneumoconiosis associated with tuberculosis	3	J65-J65.0
upper and lower limb cancer	3	C7, C76, C76.4-C76.5
MDS not classified	3	C94, C94.6

ICD9 Codes by Garbage Package and Class		
Garbage Package	Garbage Class	ICD Codes
All, Ill Defined code for causes of death	1	076-078.2, 110-111.9, 125-125.3, 126-127, 127.2-127.9, 131-133, 133.8-134.9, 139, 139.1, 139.9, 247-248, 264-264.9, 274-274.9, 289, 289.1-289.3, 293, 294-294.0, 296-302.9, 306-307.0, 307.2-307.4, 307.6-319.9, 327-327.1, 328-329, 338-339.1, 339.3-339.8, 346-346.9, 350-353.6, 354-355.9, 360-362, 362.1-376, 376.2-380.9, 384-389.9, 520-529.9, 536, 536.3, 536.8-537, 537.7, 537.9, 564, 564.8-564.9, 603, 603.9, 605-608.1, 608.3-609, 611-612.1, 615-616.9, 621-621.3, 622-622.0, 622.8-623.6, 623.8-624.5, 624.8-629, 629.9, 690-693.9, 695, 695.8-706.9, 708-709.9, 712-713.8, 715-716, 716.2-721.6, 721.8-730, 730.3, 731-731.9, 733, 733.2-734.2, 737-738, 738.2-739.9, 780, 780.1, 780.4-780.5, 780.7-782.3, 782.6-783.1, 783.3-784.6, 784.9, 786, 786.6, 786.8, 787, 787.3-788, 788.3-789, 790-790.1, 790.4-796.1, 796.3-796.9, 798, 798.1-799, 799.2-799.3, 799.5-799.9
Senility	1	797-797.9
Unspecified Bacterial Diseases	2	041, 041.2-041.9
Unspecified Leishmaniasis	3	085, 085.9
Unspecified Infectious Diseases	2	000-000.9, 030-030.9, 067-069, 078, 078.8-079, 079.8-079.9, 089-089.9, 105-109.9, 119, 136, 136.8-136.9, 139, 139.8
Sepsis (Non- maternal and neonatal sepsis)	1	038-038.9, 040-040.0, 041, 041.1, 286, 286.6, 780, 780.6, 785, 785.4
Unspecified enteric Infection	3	002
Unspecified Oropharynx Cancer	3	149-149.9, 210, 230-230.0, 235, 235.1
Unspecified GI Cancer	3	159-159.9, 211, 211.9, 230, 230.9, 235, 235.2-235.3, 235.5, 239-239.0
Unspecified Respiratory Cancer	3	165-165.9, 212, 212.9, 231, 231.8-231.9, 235, 235.9, 239, 239.1
Unspecified Uterus Cancer	3	179, 179.1-179.6
Unspecified Female Genital Cancer	3	183, 183.9-184, 184.5, 184.9, 221, 221.9, 233, 233.3, 236, 236.3, 623, 623.7, 624, 624.6
Unspecified Urinary Cancer	3	189, 189.9, 223, 223.9, 233, 233.9, 236, 236.9-237, 237.4
Unspecified Male Genital Cancer	3	187, 187.9, 222, 222.9, 233, 233.6, 236, 236.6
Unspecified genital Cancer	3	233, 236, 239, 239.5
Unspecified Endocrine Cancer	3	239, 239.7
Unspecified Site Cancer	3	166-169, 177-179.0, 179.9, 195, 195.8-196, 196.3-197, 198, 198.2-199.9, 209, 209.2-209.3, 209.6-209.7, 214, 214.1, 214.4-215, 215.2-215.3, 215.7-216, 216.5-216.9, 229, 229.1, 229.9, 234, 234.9, 239, 239.8-239.9, 259, 259.2
Head and Neck Cancer	3	195-195.0, 196-196.0, 214-214.0, 215-215.0, 216-216.4
Thorax Cancer	3	195, 195.1, 196, 196.1, 197-197.3, 214, 214.2, 215, 215.4
Abdomen and Pelvis Cancer	3	195, 195.2-195.3, 196, 196.2, 197, 197.4-198.1, 214, 214.3, 215, 215.5-215.6
Unspecified Thyroid Diseases	4	244, 244.9
Unspecified Diabetes Related cause	3	249-249.9
Amyloidosis	1	277, 277.3
Unspecified Endo/Metabolic Diseases	3	278
Unspecified Meningitis	4	320, 320.9
Unspecified CNS Infection	3	357, 357.8-357.9
Unspecified Heart Diseases	3	399-400.0, 406-409.4, 418-419.9, 429, 429.2-429.9
left heart failure	1	428-428.4
Pneumonitis	1	507-507.9, 513-513.1
Unspecified cardiovascular diseases	3	459, 459.5-459.9, 519, 519.8-519.9
Unspecified Neonatal Diseases	3	779, 779.9
Exposure to unspecified factor X59	2	839, 859, 877, 887-887.0, 928, 928.9-929, 929.9, E83, E839, E85, E859, E87, E877, E88, E887-E887.0, E928, E928.9-E929, E929.8-E929.9
Undetermined intent of fall	3	987-987.2, 987.9, E987-E987.9
Intermediate cause for CNS	3	293-293.9, 331, 331.3-331.4, 332, 332.1-332.9, 347-349, 349.9
Unspecified Mental/Brain Disorders	2	304, 304.9
CNS Abscess	1	324-326.9, 437, 437.3
Cerebral Palsy	1	343-343.9
Hypertension	2	401-401.9, 405-405.9, 784, 784.7, 796, 796.2
Atherosclerosis	2	440-440.1, 440.3, 440.8-440.9
Pulmonary Embolism	1	415-415.9
right heart failure and pulmonary heart disease	2	416, 416.2-416.9
Unspecified type of Stroke	4	436-437, 437.9-439.6
Arterial Embolism	2	444-445.8
Unspecified Hemorrhage	1	459-459.0
Unspecified upper respiratory infectious	3	464, 464.5, 465, 465.9
Unspecified lower respiratory infectious	4	482, 482.9-483, 484, 484.8-486.9, 770-770.0
Unspecified Pneumoconiosis	3	505-505.9

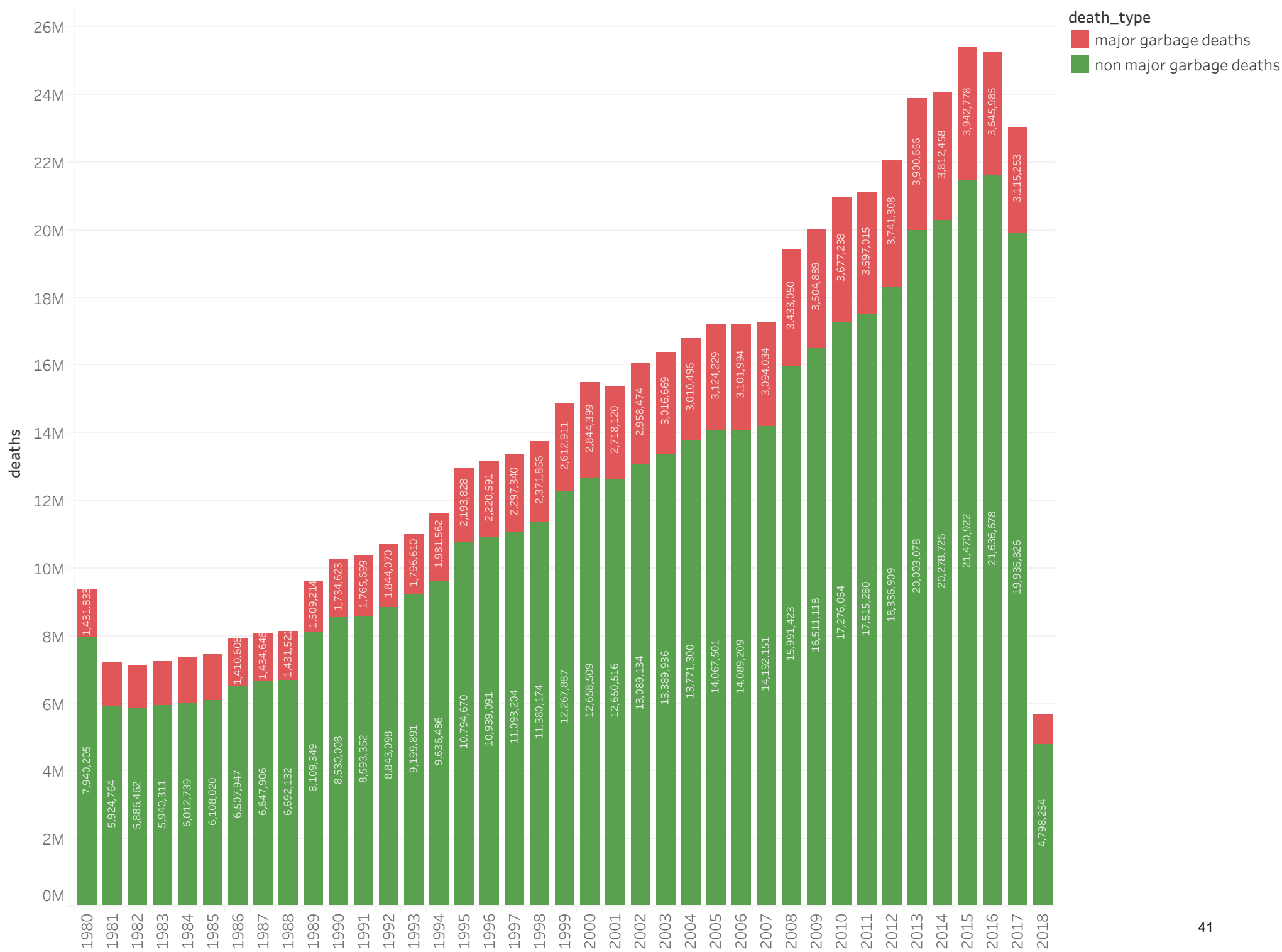
ICD9 Codes by Garbage Package and Class		
Garbage Package	Garbage Class	ICD Codes
Acute Respiratory Failure	2	514-515.9, 518-518.0, 518.4-518.5
Interstitial Emphysema	1	518, 518.1-518.2
Chronic respiratory failure	2	518, 518.8
Unspecified sign and symptom for GI diseases	2	536, 536.2, 787-787.2
Unspecified Intestine Diseases	3	530, 530.1, 530.7-530.9, 544-549, 559-560, 560.4-560.7, 561-562, 562.2-563, 569, 569.8-569.9
Liver Abscess	1	572-572.1
Gastrointestinal Bleeding	2	578-578.9
Urinary Obstruction Diseases	3	591-591.9, 600-600.9, 788, 788.1-788.2
Fistula	1	619-619.9
Unspecified Urinary Diseases	3	593, 593.9, 599, 599.9
Ur Bleeding	2	599, 599.7
Maternal Complication	3	637-637.9, 639-639.9
Osteomyelitis	1	730-730.0, 730.2, 730.7-730.9
Unspecified Congenital D	3	749, 749.1, 759, 759.9
Unspecified sign and symptom for Heart diseases	3	785-785.3, 786, 786.5
Respiratory Bleeding	2	784, 784.8, 786, 786.3
Unspecified sign and symptom for Respiratory diseases	3	782, 782.5, 786-786.2, 786.4, 786.7, 786.9
Cachexia	1	783, 783.2, 799, 799.4
Motor vehicle collision with train	4	810, E810, E810.8-E810.9
Motor vehicle with another motor vehicle	4	811, E811, E811.8-E811.9
Other motor vehicle another motor vehicle	4	812, E812, E812.8-E812.9
Motor vehicle other vehicle	4	813, 813.8-813.9, E813, E813.8-E813.9
Motor vehicle with pedestrian	4	814, E814, E814.8-E814.9
Other motor vehicle on the highway	4	815, E815, E815.8-E815.9
Motor vehicle without collision on the highway	4	816, E816, E816.8-E816.9
Non-collision motor vehicle while boarding or alighting	4	817, E817, E817.8-E817.9
Other Non-collision motor vehicle traffic accident	4	818, E818, E818.8-E818.9
Motor vehicle accident of unspecified nature	4	819, E819, E819.8-E819.9
Non-traffic accident involving motor driven snow vehicle	4	820, 820.8-820.9, E820, E820.8-E820.9
Non-traffic accident other off-road motor vehicle	4	821, E821, E821.8-E821.9
Other motor vehicle Non-traffic accident with moving object	4	822, E822, E822.8-E822.9
Other motor vehicle Non-traffic accident with stationary object	4	823, 823.8-823.9, E823, E823.8-E823.9
Other motor vehicle Non-traffic while boarding and alighting	4	824, 824.8-824.9, E824, E824.8-E824.9
Other motor vehicle Non-traffic accident of other and unspecified nature	4	825, E825, E825.8-E825.9
Pedal cycle accident	4	826, E826, E826.8-E826.9
Animal-drawn vehicle accident	4	827, E827, E827.8-E827.9
Accident involving animal being ridden	4	828, E828, E828.8-E828.9
Other road vehicle accidents	4	829, E829, E829.8-E829.9
Other specified person with railway accident with rolling stock	4	800, 800.8-800.9, E80-E800, E800.8-E800.9
Other specified person -Railway accident without antecedent collision	4	802, 802.8-802.9, E80, E802, E802.8-E802.9
Unspecified person in railway accident other object	4	801, 801.8-801.9, E80, E801, E801.8-E801.9
Unspecified person in railway accident involving explosion fire or burning	4	803, 803.8-803.9, E80, E803, E803.8-E803.9
Unspecified person in fall in on or from railway train	4	804, 804.8-804.9, E80, E804, E804.8-E804.9
Unspecified person in Hit by rolling stock	4	805, 805.8-805.9, E80, E805, E805.8-E805.9
Unspecified person in Other specified railway accident	4	806, 806.8-806.9, E80, E806, E806.8-E806.9
Unspecified person in Railway accident of unspecified nature	4	807, E80, E807, E807.8-E807.9
Unspecified person in Unspecified Road Injuries	4	808, 809, 929-929.0, E80, E808-E809, E929-E929.0
Undetermined intent Poisoning by chemicals and substances	1	980-980.9, E980-E980.9
Undetermined intent Poisoning by gases and oil	1	981, 982-982.1, 982.8, E981-E982.9
Undetermined intent Strangulation	2	983-983.1, 983.9, E983-E983.9
Undetermined intent Drowning	2	984, E984
Undetermined intent shooting by unspecified firearm	2	985-985.6, E985-E985.7
Undetermined intent of Sharp Objects	3	986, E986
Undetermined intent of fire and flames	2	988, 988.1, E988, E988.1
Undetermined intent of Crashing	2	988, 988.6, E988, E988.5-E988.6
External Causes UDI, type unspecified	2	000-001.1, 002-003.2, 003.9-004.3, 004.9-005.4, 005.9-006.6, 006.9-008.4, 008.9-009.5, 009.9-010.3, 010.9-011.1, 011.9-012.2, 012.9-013.5, 013.8-014.0, 014.9-015.2, 015.9-016.2, 016.9-017.0, 017.9-018.3, 019, 019.9, 029-030, 339, 339.2, 714, 714.4, 716, 716.1, 721, 721.7, 735-736.9, 738-738.1, 988-988.0, 988.2, 988.8-989, E000-E80, E83, E85, E87, E88, E988-E988.0, E988.2-E988.4, E988.7-E989

ICD9 Codes by Garbage Package and Class		
Garbage Package	Garbage Class	ICD Codes
Undetermined intent Poisoning by multiple or unspecified drug	1	305, 305.9, 850, 850.3-851.0, 852-854.1, E85-E850, E850.3-E854.8
Unspecified blood neoplasm	4	238, 289, 289.8-289.9
Anemia Unspecified	1	280-281, 285-285.9
Unspecified Cardiomyopathy	4	425, 425.4, 425.9, 429, 429.1
Female pelvic inflammatory diseases	2	613-614.9
Schizophrenia	1	295-295.9
Diabetes unspecified type	4	250-250.9, 357, 357.2, 362-362.0, 790, 790.2
Unspecified Bronchitis and Bronchiectasis	2	490-490.9, 494-494.9
Primary or secondary Liver Cancer Unspecified	3	155, 155.2
Eye Unspecified Site Cancer	3	190, 190.9
Adrenal Unspecified Site Cancer	4	194-194.0, 194.9
Chronic lymphocytic leukemia by age	4	204, 204.1
Lymphoid leukemia unspecified by age	4	204, 204.5-204.9
myeloid leukemia by age	4	205, 205.8-206, 206.2-206.9
Heart failure unspecified right or left	1	428, 428.6-428.9
Hepatitis Unspecified	3	070, 070.4-070.9
Hepatic Failure	1	570-570.9, 573, 573.1-573.3, 782, 782.4, 789, 789.1-789.2, 789.5
Acute kidney failure	1	584-584.9, 586-587.9
Unspecified Eating Disorders	4	307, 307.5
Non-rheumatic valvar unspecified	1	424, 424.4-424.5, 424.9
hepatitis B unspecified	4	070, 070.3
Tobacco use disorder	2	305, 305.1
Peritonitis & Acute Abdomen	1	567-568.9, 789-789.0, 789.3-789.4, 789.6-789.9
Pneumothorax	1	423-423.0, 512-513, 513.9
Pleurisy, Pyothorax	1	510-511.9, 518, 518.3
upper and lower limb cancer	3	195, 195.4-195.5
Fluid, Electrolyte, Acid Base Disorders	1	276-276.9
Plegia	1	342-342.9, 344-344.9
Shock, Cardiac Arrest, Coma	1	427, 427.5, 427.9, 458-458.9, 780-780.0, 780.2-780.3, 785, 785.5-785.9, 799-799.1
Cardiac rhythm disorders	3	426-427, 427.4
Non-follicular lymphoma, unspecified	3	202, 202.9



# Appendix Figure 5

Major garbage totals by year - ICD9 and ICD10

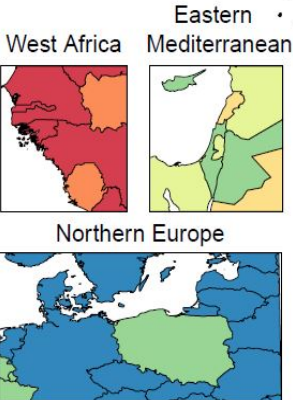
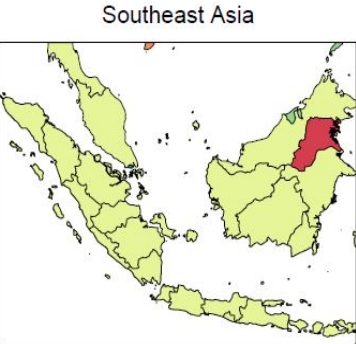
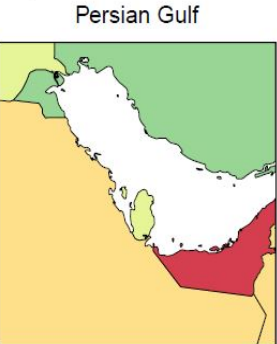
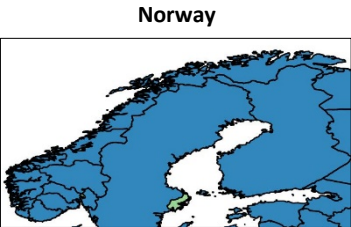
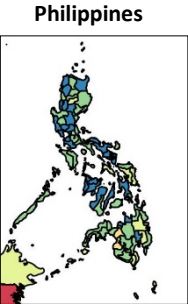
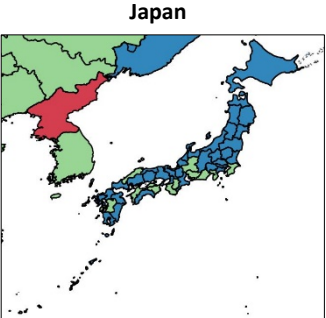
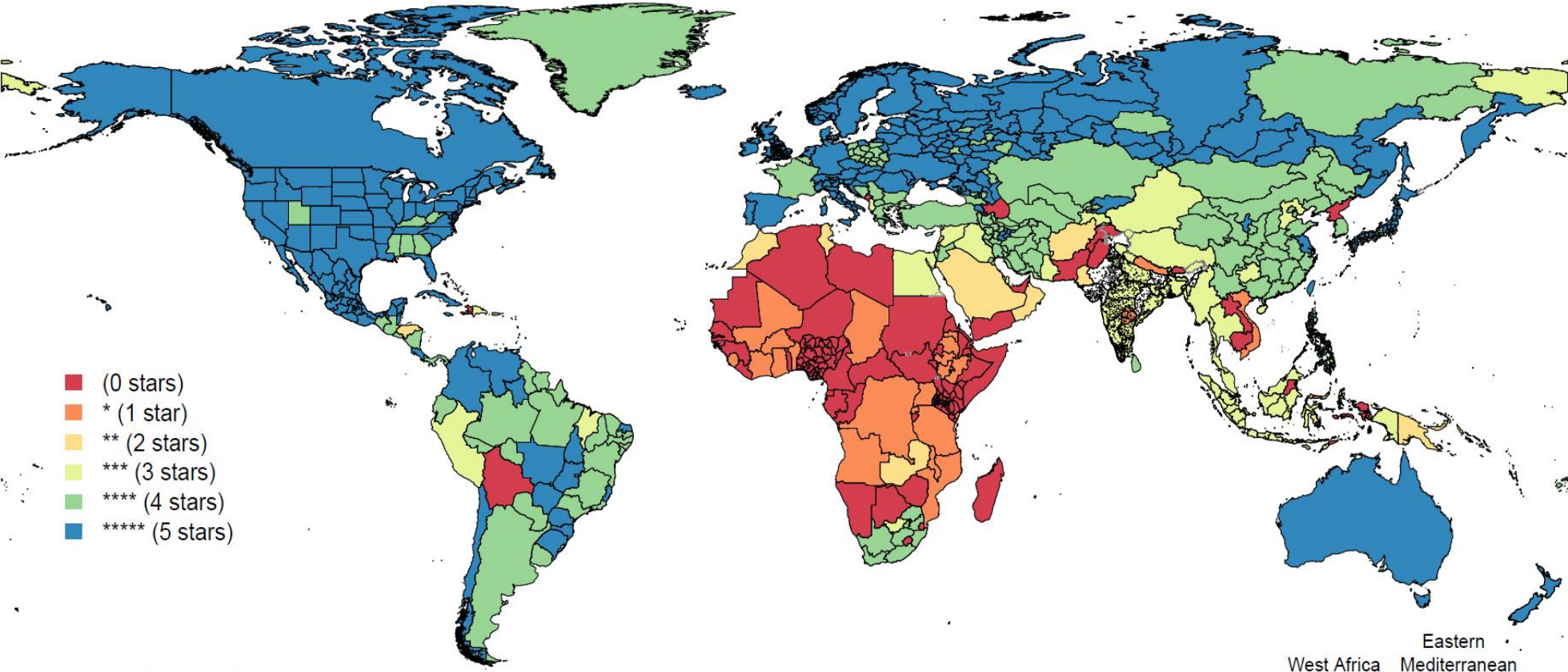


## Appendix Figure 6

Percent Well Certified (PWC)	Star Rating
$PWC \geq 0.85$	5 Stars
$0.65 \leq PWC < 0.85$	4 Stars
$0.35 \leq PWC < 0.65$	3 Stars
$0.1 \leq PWC < 0.35$	2 Stars
$0 < PWC < 0.1$	1 Star
$PWC = 0$	0 Star

Appendix Figure 7

Classification of national time series of vital registration and verbal autopsy data 2010–2019



# Appendix Figure 8

International Classification of Diseases (ICD) Mapped to Intermediate Causes		
Intermediate cause	ICD 10	ICD 9
Sepsis	A02.1-A02.9, A20.7-A20.9, A21.7-A21.9, A22.7-A22.9, A24.1-A24.9, A26.7-A26.9, A28.2-A28.9, A32.7-A32.9, A39.0, A39.4-A41.9, A42.7-A42.9, A50-A50.9, A54.86, B00.7-B00.9, B37.7-B37.9, B95-B95.8, N98.0, O03.0, O03.38, O03.5, O03.88, O04.5, O04.88, O07.38, O08.0, O08.83, O23-O23.93, O41.1-O41.93, O75.3, O85-O86.89, O88.3-O88.32, O91-O91.23, O98, O98.2-O98.93, P00.2, P22-P23.9, P29.12, P29.81, P35-P37, P37.1-P39.9, R65.2-R65.21, R68.13	038-038.9, 090-097.9, 286.6, 635-639.9, 646.5-646.64, 658.4-658.93, 659.2-659.33, 670-670.9, 672-672.04, 674.1-674.34, 675-675.94, 771, 771.4-771.89, 800-801.99, 803-804.99, 905.0, 995.9-995.94
Amyloidosis	E85.3-E85.9	277.3-277.39
Fluid, electrolyte, and acid base disorders	E86-E87.69, E87.8-E87.99	276.0-276.9
External causes UDI, type unspecified (Y34)	G44.3-G44.32, G91.3, R58, W47., W76-W76.9, Y10-Y14.9, Y16-Y34.9, Y85-Y87, Y87.2, Y89, Y89.9-Y99.9	E000-E80, E88, E980-E989
Cerebral palsy	G80-G80.9, G82.1, G82.4, G83.0, G83.8-G83.89	343-343.9
Plegia	G81-G82.0, G82.2-G82.3, G82.5-G83, G83.1-G83.5, G83.9	342-342.92, 344-344.9
Unspecified CNS signs and symptoms	G91-G91.2, G91.4-G92.6, G93, G93.1-G93.2, G93.40-G93.41, G93.5-G93.6, G93.9, G94.0-G94.8	293.0-293.9, 331.3-331.4, 332.1-332.9, 347-348.9, 349.81-349.9
Hypertension	I10-I10.9, I15-I15.9, I67.4, R03-R03.0, R04.0	401-401.9, 405-405.99, 784.7, 796.2
Pulmonary embolism	I26-I26.99	415-415.9
Right heart failure	I27, I27.2-I27.9	416, 416.2-416.9
Pneumothorax	I31.2-I31.4, J93-J93.12, J93.8-J93.9, J94.2, R04, R04.1-R04.9	423.0, 512-512.9, 513.9
Cardiac rhythm disorders	I44-I45.9, I49-I49.9	426-427, 427.4-427.42
Shock, cardiac arrest, and coma	I46-I46.9, I95-I95.1, I95.8-I95.9, R03.1, R09.0-R09.02, R09.2, R09.8, R40-R40.4, R55, R56, R56.00-R57.9	427.5, 427.9, 458-458.9, 780.0-780.09, 780.2-780.39, 785.5-785.9, 799.0-799.1
Unspecified heart failure	I50, I50.8-I50.9, J81, J81.1	428, 428.6-428.9
Left heart failure	I50.0-I50.43, I51.81	428.1-428.43
Atherosclerosis	I70-I70.1, I70.9-I70.92	440-440.1, 440.3-440.32, 440.8-440.9
Arterial embolism	I74-I75.89	444-445.89
Pneumonitis	J69-J69.9, J85-J85.3	507-507.9, 513-513.1
Acute respiratory failure	J80-J80.9, J81.0, J96-J96.02, J96.9-J96.92, J98.1-J98.3	514-514.9, 515.0-515.9, 518.0, 518.4-518.53
Pleurisy and pyothorax	J86-J86.9, J90-J90.0, J94-J94.1, J94.8-J94.9, R09.1	510-511.9, 518.3
Chronic respiratory failure	J96.1-J96.8	518, 518.8-518.89
Peritonitis and acute abdomen	K65-K66.1, K66.9, K68.1, K68.12-K68.9, R10-R10.9	567-568.9, 789.0-789.09, 789.3-789.49, 789.6-789.9
Alcoholic hepatic failure	K70.4-K70.9	
Hepatic failure	K71-K71.6, K71.8-K72.91, R16-R18.9	570-570.9, 571.41-571.49, 573.1-573.3, 782.4, 789.1-789.2, 789.5-789.59
Gastrointestinal bleeding	K92.0-K92.2	578-578.9
Osteomyelitis	M86-M86.29, M86.5-M86.9	730-730.09, 730.2-730.29, 730.7-730.99
Acute kidney failure	N17-N17.9	584, 584.5-584.9
Renal failure	N19-N19.9	586-587.9
Cachexia	R63.4, R63.6, R64	783.2-783.22, 799.4

Unspecified external factor (X59)	W47, W48, W63, W71-W72, W82, W95- W97, W98, X07, X55, X56, X59-X59.9	E887-E887.0, E928.9-E929.0, E929.8- E929.9
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## Appendix Figure 9

Covariates Used in Multiple Cause of Death Analysis	
Intermediate Cause	Covariates
Acute kidney failure	Healthcare access and quality index Sex Age group Underlying cause
Acute respiratory failure	Healthcare access and quality index Sex Age group Underlying cause
Alcoholic hepatic failure	Healthcare access and quality index Alcohol binge drinker proportion, age-standardized Sex Age group Underlying cause
Amyloidosis	Healthcare access and quality index Sex Age group Underlying cause
Arterial embolism	Healthcare access and quality index Sex Age group Underlying cause
Atherosclerosis**	Healthcare access and quality index Mean BMI Sex Age group Underlying cause
Cachexia	Healthcare access and quality index Sex Age group Underlying cause
Cardiac rhythm disorders**	Healthcare access and quality index Systolic Blood Pressure (mmHg) Sex Age group Underlying cause
Cerebral palsy	Healthcare access and quality index Sex Age group Underlying cause
Chronic respiratory failure	Healthcare access and quality index Smoking Prevalence (Age-standardized, both sexes) Sex Age group Underlying cause

External causes UDI, type unspecified (Y34)	Healthcare access and quality index Sex Age group Underlying cause
Fluid, electrolyte, and acid base disorders	Healthcare access and quality index Age- and sex-specific SEV for Unsafe sanitation Sex Age group Underlying cause
Gastrointestinal bleeding	Healthcare access and quality index Sex Age group Underlying cause
Hepatic failure	Healthcare access and quality index Alcohol binge drinker proportion, age-standardized Hepatitis B Seroprevalence (HBsAg) age standardized Sex Age group Underlying cause
Hypertension**	Healthcare access and quality index Mean BMI Sex Age group Underlying cause
Left heart failure**	Healthcare access and quality index Mean BMI Smoking Prevalence (Age-standardized, both sexes) Sex Age group Underlying cause
Osteomyelitis	Healthcare access and quality index Sex Age group Underlying cause
Peritonitis and acute abdomen	Healthcare access and quality index Sex Age group Underlying cause
Plegia	Healthcare access and quality index Sex Age group Underlying cause
Pleurisy and pyothorax	Healthcare access and quality index Sex Age group Underlying cause



Pneumonitis	Healthcare access and quality index Sex Age group Underlying cause
Pneumothorax	Healthcare access and quality index Sex Age group Underlying cause
Pulmonary embolism	Healthcare access and quality index Sex Age group Underlying cause
Renal failure**	Healthcare access and quality index Systolic Blood Pressure (mmHg) Age- and sex-specific SEV for High fasting plasma glucose Sex Age group Underlying cause
Right heart failure	Healthcare access and quality index Smoking Prevalence (Age-standardized, both sexes) Log-transformed age-standardized SEV scalar: TB Sex Age group Underlying cause
Sepsis*	Healthcare access and quality index Sex Underlying cause
Shock, cardiac arrest, and coma**	Healthcare access and quality index Sex Age group Underlying cause
Unspecified CNS signs and symptoms	Healthcare access and quality index Sex Age group Underlying cause
Unspecified external factor (X59)	Healthcare access and quality index Sex Age group Underlying cause
Unspecified heart failure**	Healthcare access and quality index Systolic Blood Pressure (mmHg) Sex Age group Underlying cause
<b>*For sepsis, separate models were run for each age group</b>	

**\*\*For each of these intermediate causes, underlying cause was included as fixed effect. For all other intermediate causes, underlying cause was included as a random effect.**



# Appendix Figure 10

Redistribution Proportions for Pulmonary Embolism, Year 2015, Top 20 Underlying Causes							
Age Group and Cause	Central Europe, Eastern Europe, and Central Asia	High-income	Latin America and Caribbean	North Africa and Middle East	South Asia	Southeast Asia, East Asia, and Oceania	Sub-Saharan Africa
<b>0 to 14</b>							
Lower respiratory infections	34.35%	4.75%	17.99%	12.20%	41.56%	22.17%	37.20%
Other cardiovascular and circulatory diseases	5.47%	14.22%	13.72%	50.35%	9.29%	10.76%	12.22%
Congenital heart anomalies	23.12%	22.38%	27.15%	15.30%	15.97%	26.15%	7.72%
Sickle cell disorders	0.04%	0.84%	2.81%	0.87%	1.74%	0.06%	15.79%
Falls	8.00%	4.76%	4.09%	4.01%	10.23%	11.34%	2.36%
Adverse effects of medical treatment	1.23%	2.58%	2.09%	1.01%	2.10%	1.35%	3.11%
Tuberculosis	0.64%	0.05%	0.38%	0.21%	2.32%	1.33%	3.01%
Endocrine, metabolic, blood, and immune disorders	3.71%	12.52%	4.46%	3.06%	1.65%	2.32%	0.79%
HIV/AIDS	0.51%	0.16%	1.12%	0.15%	0.33%	0.66%	3.69%
Brain and central nervous system cancer	3.74%	6.47%	2.44%	1.10%	1.67%	2.40%	0.59%
Pedestrian road injuries	1.34%	1.60%	1.67%	1.34%	1.01%	2.26%	1.12%
Paralytic ileus and intestinal obstruction	1.14%	1.55%	2.02%	0.62%	0.94%	1.90%	1.28%
Leukemia	1.64%	2.47%	2.08%	0.72%	0.84%	2.17%	0.65%
Other malignant neoplasms	1.79%	2.60%	1.23%	0.78%	1.26%	1.38%	0.63%
Motor vehicle road injuries	1.25%	2.09%	0.97%	1.46%	0.35%	0.80%	0.94%
Other exposure to mechanical forces	0.64%	0.63%	0.43%	0.70%	0.60%	1.24%	0.57%
Pulmonary aspiration and foreign body in airway	1.67%	2.66%	2.30%	0.32%	0.45%	1.47%	0.20%
Other cardiomyopathy	0.83%	1.97%	1.40%	0.73%	0.02%	0.58%	0.67%
Fire, heat, and hot substances	1.10%	0.84%	0.44%	0.36%	0.45%	0.37%	0.55%
Chronic kidney disease	0.35%	0.37%	0.59%	0.40%	0.47%	0.51%	0.42%
<b>15 to 29</b>							
Other cardiovascular and circulatory diseases	13.79%	18.45%	13.98%	22.82%	12.10%	8.23%	12.40%
Maternal disorders	1.36%	1.94%	7.19%	7.55%	17.14%	4.64%	20.16%
Falls	16.22%	9.53%	7.92%	9.80%	10.24%	16.01%	1.88%
HIV/AIDS	1.96%	0.48%	2.35%	0.38%	1.16%	1.66%	13.53%
Motor vehicle road injuries	7.31%	10.54%	4.80%	8.17%	2.01%	3.99%	3.41%
Tuberculosis	1.74%	0.11%	0.85%	0.72%	5.17%	3.09%	6.67%
Sickle cell disorders	0.05%	0.80%	1.75%	3.16%	1.83%	0.07%	11.07%
Motorcyclist road injuries	1.72%	4.21%	6.92%	2.69%	3.83%	6.88%	0.70%
Pedestrian road injuries	2.85%	2.18%	3.63%	3.93%	2.00%	5.41%	2.23%
Lower respiratory infections	3.81%	1.56%	2.94%	2.27%	2.00%	2.08%	4.23%
Ischemic heart disease	2.70%	1.19%	1.58%	3.35%	3.12%	3.15%	0.62%
Rheumatic heart disease	0.81%	0.23%	0.56%	0.69%	4.61%	1.10%	0.72%
Adverse effects of medical treatment	0.90%	1.43%	1.06%	2.09%	2.56%	0.93%	1.48%
Other malignant neoplasms	1.65%	2.43%	1.29%	1.67%	2.23%	1.81%	0.80%
Chronic kidney disease	1.12%	0.50%	1.76%	0.95%	1.56%	1.81%	1.33%
Brain and central nervous system cancer	2.82%	3.58%	1.76%	1.62%	1.01%	2.31%	0.47%
Congenital heart anomalies	1.41%	1.77%	1.42%	1.29%	1.27%	2.75%	0.51%
Other exposure to mechanical forces	1.18%	0.81%	0.72%	3.54%	0.94%	2.09%	0.64%
Leukemia	1.35%	1.98%	1.89%	1.39%	0.76%	2.35%	0.44%
Intracerebral hemorrhage	0.86%	0.50%	0.76%	1.78%	0.80%	2.22%	0.93%
<b>30 to 44</b>							
Other cardiovascular and circulatory diseases	15.63%	21.07%	14.56%	20.84%	13.97%	6.86%	11.78%
Falls	9.46%	5.85%	6.44%	8.22%	9.02%	11.32%	1.60%
HIV/AIDS	3.48%	0.73%	3.53%	0.74%	1.96%	2.01%	23.60%
Maternal disorders	0.42%	0.90%	3.68%	5.29%	7.64%	2.19%	15.38%
Ischemic heart disease	6.56%	4.13%	4.08%	8.95%	9.11%	6.82%	1.77%
Tuberculosis	1.31%	0.10%	0.84%	0.75%	7.04%	2.31%	7.89%
Breast cancer	2.85%	5.98%	3.81%	3.97%	3.47%	4.59%	2.11%
Intracerebral hemorrhage	2.01%	1.06%	1.54%	2.23%	2.08%	5.17%	1.91%
Lower respiratory infections	3.91%	1.46%	2.96%	1.92%	1.61%	1.50%	3.84%
Stomach cancer	2.12%	2.12%	2.49%	1.88%	1.90%	3.76%	0.76%
Tracheal, bronchus, and lung cancer	2.14%	3.60%	1.41%	1.71%	0.99%	4.70%	0.48%
Cervical cancer	1.81%	1.98%	3.52%	0.66%	1.81%	2.06%	2.70%
Colon and rectum cancer	1.96%	3.89%	2.11%	1.67%	1.07%	3.74%	0.66%
Motor vehicle road injuries	2.19%	2.49%	2.32%	5.51%	1.17%	1.74%	1.57%
Cirrhosis and other chronic liver diseases	3.28%	1.35%	1.79%	0.83%	2.42%	1.81%	1.36%
Pedestrian road injuries	1.18%	0.80%	2.21%	2.53%	1.39%	3.16%	1.04%
Rheumatic heart disease	0.59%	0.24%	0.58%	0.71%	4.65%	0.95%	0.36%
Chronic kidney disease	0.65%	0.81%	2.28%	1.36%	2.08%	1.92%	1.11%
Motorcyclist road injuries	0.37%	1.09%	2.50%	1.10%	2.18%	2.23%	0.27%
Brain and central nervous system cancer	2.16%	3.32%	1.80%	1.88%	0.94%	2.03%	0.42%
<b>45 to 59</b>							

Other cardiovascular and circulatory diseases	14.91%	14.48%	13.58%	22.69%	14.21%	5.68%	16.45%
Ischemic heart disease	12.81%	6.39%	7.54%	16.78%	14.46%	8.57%	4.98%
Tracheal, bronchus, and lung cancer	7.84%	11.53%	4.13%	4.93%	2.29%	10.30%	1.98%
Falls	4.87%	4.10%	4.63%	3.00%	7.00%	6.50%	2.41%
Intracerebral hemorrhage	3.26%	1.32%	2.62%	2.72%	4.73%	7.84%	4.80%
Breast cancer	3.74%	5.77%	4.30%	4.05%	4.11%	4.06%	3.41%
Stomach cancer	3.28%	2.43%	3.41%	2.44%	2.33%	5.95%	1.56%
Colon and rectum cancer	3.85%	5.70%	3.23%	2.46%	1.80%	4.60%	1.48%
Chronic obstructive pulmonary disease	1.39%	2.25%	1.98%	2.02%	5.73%	2.96%	1.73%
Tuberculosis	0.78%	0.07%	0.50%	0.43%	5.24%	1.34%	7.32%
Diabetes mellitus type 2	0.83%	1.23%	4.08%	2.40%	2.36%	2.54%	2.70%
Pancreatic cancer	2.83%	4.61%	2.21%	1.79%	0.87%	2.43%	0.94%
Lower respiratory infections	2.20%	1.26%	2.76%	1.63%	1.93%	1.27%	5.51%
Cervical cancer	1.34%	1.08%	2.73%	0.66%	1.77%	1.99%	3.50%
Chronic kidney disease	0.53%	0.91%	3.65%	1.98%	2.38%	1.73%	1.48%
Ischemic stroke	2.80%	0.43%	0.85%	3.14%	1.09%	2.86%	0.86%
Ovarian cancer	2.33%	2.73%	1.93%	1.22%	1.39%	1.69%	0.98%
Cirrhosis and other chronic liver diseases	2.15%	1.65%	2.02%	1.32%	1.73%	1.43%	1.81%
HIV/AIDS	0.29%	0.26%	1.07%	0.19%	0.46%	0.47%	10.91%
Esophageal cancer	0.89%	1.29%	1.03%	0.54%	1.08%	2.44%	1.39%
<b>60 to 69</b>							
Other cardiovascular and circulatory diseases	14.77%	12.61%	13.64%	23.30%	13.97%	5.62%	19.58%
Ischemic heart disease	16.85%	6.52%	8.97%	19.04%	12.94%	9.25%	7.20%
Tracheal, bronchus, and lung cancer	9.40%	14.17%	5.25%	5.37%	2.29%	12.65%	2.60%
Chronic obstructive pulmonary disease	2.36%	4.13%	3.78%	3.30%	12.09%	6.65%	3.51%
Intracerebral hemorrhage	3.03%	1.32%	2.69%	2.31%	5.37%	8.17%	6.00%
Falls	2.76%	3.40%	3.79%	1.85%	9.26%	4.07%	2.82%
Ischemic stroke	6.33%	1.02%	2.26%	5.46%	2.94%	5.96%	2.74%
Stomach cancer	3.43%	2.61%	3.61%	2.48%	1.87%	6.89%	1.84%
Colon and rectum cancer	5.07%	6.02%	3.41%	2.34%	1.58%	4.35%	1.76%
Pancreatic cancer	3.33%	5.75%	2.68%	1.90%	0.98%	2.60%	1.26%
Diabetes mellitus type 2	1.25%	1.33%	5.09%	3.10%	2.87%	2.51%	4.08%
Lower respiratory infections	1.34%	1.50%	2.98%	1.87%	3.10%	1.53%	6.90%
Breast cancer	2.80%	3.78%	2.53%	1.84%	1.95%	2.03%	2.31%
Hypertensive heart disease	1.19%	0.77%	1.44%	3.15%	1.32%	2.17%	3.11%
Chronic kidney disease	0.53%	1.12%	4.02%	2.47%	1.88%	1.58%	1.72%
Esophageal cancer	0.81%	1.42%	0.92%	0.49%	0.79%	3.19%	1.48%
Tuberculosis	0.23%	0.05%	0.31%	0.30%	3.22%	0.97%	4.69%
Ovarian cancer	1.89%	2.32%	1.39%	0.83%	0.96%	1.06%	0.83%
Prostate cancer	1.46%	1.93%	2.34%	0.82%	0.59%	0.81%	2.45%
Liver cancer	0.62%	1.54%	0.68%	1.31%	0.46%	1.94%	0.64%
<b>70 to 79</b>							
Other cardiovascular and circulatory diseases	14.68%	13.83%	14.96%	27.01%	14.86%	6.37%	22.35%
Ischemic heart disease	23.45%	6.95%	9.43%	18.45%	11.58%	10.83%	8.22%
Chronic obstructive pulmonary disease	2.96%	5.36%	5.61%	4.11%	16.16%	11.89%	4.51%
Ischemic stroke	12.37%	2.54%	4.66%	8.01%	4.63%	9.85%	4.87%
Tracheal, bronchus, and lung cancer	5.24%	11.13%	4.24%	3.51%	1.72%	9.57%	2.03%
Falls	2.20%	4.54%	4.53%	2.13%	12.66%	4.36%	3.77%
Intracerebral hemorrhage	2.87%	1.47%	2.20%	1.98%	3.86%	8.04%	5.51%
Colon and rectum cancer	4.76%	5.51%	3.07%	2.00%	1.40%	3.54%	1.58%
Stomach cancer	2.74%	2.56%	3.31%	2.16%	1.29%	5.33%	1.58%
Lower respiratory infections	1.12%	2.34%	4.13%	2.21%	3.83%	2.27%	8.00%
Diabetes mellitus type 2	1.23%	1.37%	4.90%	2.65%	2.62%	2.11%	3.70%
Pancreatic cancer	2.56%	4.96%	2.27%	1.41%	0.83%	1.85%	1.05%
Hypertensive heart disease	1.83%	0.87%	1.88%	4.06%	1.66%	3.08%	3.56%
Prostate cancer	1.86%	2.89%	3.74%	1.40%	0.89%	1.17%	3.47%
Chronic kidney disease	0.56%	1.42%	3.40%	2.56%	1.47%	1.50%	1.94%
Breast cancer	1.93%	2.60%	1.53%	0.98%	1.12%	1.05%	1.48%
Esophageal cancer	0.43%	0.98%	0.63%	0.38%	0.54%	2.35%	0.94%
Tuberculosis	0.08%	0.06%	0.23%	0.27%	2.33%	0.77%	3.85%
Other malignant neoplasms	0.95%	1.15%	0.90%	0.78%	1.05%	0.79%	0.68%
Ovarian cancer	1.19%	1.70%	0.89%	0.49%	0.60%	0.53%	0.51%
<b>80 plus</b>							
Other cardiovascular and circulatory diseases	14.34%	16.67%	17.99%	29.99%	16.28%	7.23%	22.70%
Ischemic heart disease	29.98%	9.84%	10.98%	19.07%	11.39%	14.43%	9.09%
Chronic obstructive pulmonary disease	2.83%	5.07%	7.02%	4.47%	18.37%	15.56%	4.27%
Ischemic stroke	17.45%	5.97%	6.70%	9.97%	5.52%	12.04%	7.37%
Falls	3.33%	8.84%	8.13%	3.77%	15.72%	8.16%	6.23%
Lower respiratory infections	1.50%	4.62%	6.75%	2.90%	4.33%	3.70%	9.68%
Tracheal, bronchus, and lung cancer	1.86%	4.45%	2.03%	1.58%	0.85%	4.89%	1.01%
Hypertensive heart disease	2.72%	2.11%	2.68%	5.10%	2.06%	4.25%	4.24%
Intracerebral hemorrhage	2.02%	1.26%	1.25%	1.45%	2.16%	6.60%	3.75%
Colon and rectum cancer	3.08%	4.08%	2.22%	1.46%	1.13%	2.35%	1.32%

Stomach cancer	1.40%	1.77%	2.12%	1.41%	0.88%	2.94%	1.14%
Prostate cancer	1.29%	2.38%	3.50%	1.42%	0.96%	1.03%	3.08%
Diabetes mellitus type 2	0.83%	1.28%	3.50%	1.92%	2.69%	1.44%	3.34%
Chronic kidney disease	0.59%	2.09%	2.76%	2.44%	1.20%	1.33%	2.17%
Pancreatic cancer	1.33%	2.52%	1.29%	0.79%	0.52%	0.98%	0.64%
Breast cancer	1.23%	1.75%	0.97%	0.54%	0.61%	0.54%	1.22%
Other cardiomyopathy	2.77%	1.52%	1.30%	0.40%	0.06%	0.39%	1.20%
Bladder cancer	0.74%	1.30%	0.58%	0.68%	0.36%	0.56%	0.51%
Endocrine, metabolic, blood, and immune disorders	0.14%	1.35%	1.23%	0.71%	0.16%	0.47%	0.46%
Lower extremity peripheral arterial disease	1.28%	1.22%	0.64%	0.20%	0.13%	0.08%	0.42%

*Proportions in the above table are unique by super region and age group. For each individual percentage in the table, the denominator used in its calculation was the total deaths redistributed across all causes within its respective super region and age group. Thus, column percentages within each age group will add to, or very close to, 100%. Only the top 20 redistribution targets are listed, so it is possible that some columns may not quite total 100%.*

# Appendix Figure 11

Redistribution Proportions for Unspecified Heart Failure, Year 2015, Top 20 Underlying Causes							
Age Group and Cause	Central Europe, Eastern Europe, and Central Asia	High-income	Latin America and Caribbean	North Africa and Middle East	South Asia	Southeast Asia, East Asia, and Oceania	Sub-Saharan Africa
<b>0 to 14</b>							
Congenital heart anomalies	76.34%	60.17%	68.01%	65.80%	57.18%	73.30%	40.16%
Protein-energy malnutrition	0.13%	0.23%	3.19%	1.52%	6.10%	1.33%	14.89%
Neonatal preterm birth	2.63%	3.55%	2.65%	3.47%	6.42%	3.03%	4.57%
Other cardiomyopathy	4.60%	9.29%	5.86%	5.16%	0.13%	2.81%	5.75%
Sickle cell disorders	0.02%	0.27%	0.84%	0.45%	0.77%	0.02%	9.79%
Rheumatic heart disease	0.98%	0.53%	1.21%	2.32%	5.88%	2.58%	2.61%
Chronic kidney disease	1.95%	1.67%	2.48%	2.86%	2.88%	2.44%	3.56%
Down syndrome	1.48%	3.80%	3.22%	3.03%	1.19%	1.83%	2.78%
Neonatal encephalopathy due to birth asphyxia and trauma	1.17%	0.54%	0.71%	0.33%	2.67%	0.90%	2.68%
Endocrine, metabolic, blood, and immune disorders	2.49%	7.00%	2.37%	2.74%	1.29%	1.39%	0.86%
Thalassemias	1.80%	0.83%	0.17%	0.98%	2.83%	2.26%	0.46%
Other neonatal disorders	0.58%	0.68%	0.54%	1.00%	2.91%	0.34%	1.01%
Chronic kidney disease due to other and unspecified causes	0.75%	0.66%	0.81%	1.30%	1.04%	0.94%	1.04%
Pulmonary Arterial Hypertension	1.05%	4.73%	1.80%	0.94%	0.91%	0.95%	0.73%
Chronic kidney disease due to glomerulonephritis	0.50%	0.39%	0.88%	0.41%	0.87%	0.52%	1.51%
Cirrhosis and other chronic liver diseases	0.74%	0.22%	0.46%	0.77%	1.27%	0.54%	1.10%
Other cardiovascular and circulatory diseases	0.26%	0.56%	0.50%	3.07%	0.49%	0.45%	0.91%
Endocarditis	0.33%	0.72%	1.13%	0.67%	0.44%	0.67%	1.33%
Neonatal sepsis and other neonatal infections	0.32%	0.24%	0.63%	0.16%	0.69%	0.41%	1.12%
Diabetes mellitus type 1	0.43%	0.45%	0.50%	0.44%	0.69%	0.49%	0.85%
<b>15 to 29</b>							
Ischemic heart disease	17.27%	11.89%	14.18%	27.81%	18.46%	22.26%	5.94%
Rheumatic heart disease	5.91%	2.50%	5.19%	6.14%	29.15%	8.73%	7.22%
Maternal disorders	1.11%	2.50%	8.24%	8.14%	13.14%	4.18%	24.24%
Chronic kidney disease	6.68%	4.48%	14.41%	7.06%	8.40%	11.75%	11.63%
Congenital heart anomalies	4.66%	9.26%	6.67%	5.62%	3.94%	10.15%	2.56%
Cirrhosis and other chronic liver diseases	6.56%	2.03%	3.14%	2.68%	6.28%	4.09%	5.25%
Other cardiomyopathy	19.37%	17.22%	7.10%	4.26%	0.29%	3.39%	5.20%
Chronic kidney disease due to glomerulonephritis	2.16%	1.56%	6.14%	1.50%	2.73%	2.31%	5.93%
Hypertensive heart disease	1.18%	4.66%	2.37%	5.30%	1.06%	3.28%	3.70%
Chronic kidney disease due to other and unspecified causes	2.02%	1.18%	2.94%	2.22%	2.40%	1.64%	1.74%
Sickle cell disorders	0.02%	0.55%	1.04%	1.82%	0.75%	0.03%	7.22%
Motor vehicle road injuries	2.40%	5.54%	2.31%	3.75%	0.68%	1.52%	1.77%
Endocarditis	2.86%	3.28%	2.53%	1.21%	0.93%	2.55%	1.46%
Diabetes mellitus type 1	2.28%	3.35%	2.49%	1.41%	1.30%	1.76%	1.50%
Chronic obstructive pulmonary disease	1.23%	1.33%	1.72%	2.43%	0.97%	2.24%	1.33%
Pulmonary Arterial Hypertension	1.29%	3.67%	1.35%	1.18%	1.02%	1.27%	1.19%
Chronic kidney disease due to hypertension	0.23%	0.40%	0.84%	0.78%	0.73%	2.32%	1.59%
Intracerebral hemorrhage	0.71%	0.65%	0.90%	1.99%	0.65%	2.09%	1.20%
Other cardiovascular and circulatory diseases	0.87%	1.82%	1.27%	1.96%	0.75%	0.60%	1.24%
Endocrine, metabolic, blood, and immune disorders	0.88%	6.97%	2.19%	1.33%	0.41%	0.96%	0.51%
<b>30 to 44</b>							
Ischemic heart disease	27.87%	28.40%	24.76%	47.24%	38.22%	35.71%	16.15%
Rheumatic heart disease	2.88%	1.82%	3.75%	4.06%	20.68%	5.62%	3.49%
Chronic kidney disease	2.53%	5.10%	12.65%	6.39%	7.84%	9.19%	8.99%
Cirrhosis and other chronic liver diseases	8.33%	5.62%	6.96%	2.72%	6.51%	6.01%	7.86%
Hypertensive heart disease	2.39%	10.37%	5.10%	8.87%	3.02%	7.59%	11.32%
Maternal disorders	0.23%	0.80%	2.88%	3.54%	4.07%	1.46%	17.66%
Other cardiomyopathy	17.28%	10.74%	6.50%	2.24%	0.19%	2.41%	5.64%
Alcoholic cardiomyopathy	24.85%	2.20%	1.06%	0.15%	0.14%	0.60%	0.13%
Chronic obstructive pulmonary disease	1.08%	1.57%	1.81%	2.24%	2.15%	2.68%	1.79%
Diabetes mellitus type 2	0.31%	1.61%	4.37%	1.51%	1.37%	2.97%	2.42%
Intracerebral hemorrhage	1.09%	0.93%	1.22%	1.53%	1.16%	3.55%	2.30%
Chronic kidney disease due to glomerulonephritis	0.75%	1.41%	4.04%	0.83%	2.06%	1.01%	3.02%
Chagas disease			1.82%				
Chronic kidney disease due to diabetes mellitus type 1	0.31%	0.66%	2.26%	1.25%	0.94%	2.96%	1.48%
Chronic kidney disease due to hypertension	0.19%	0.84%	1.38%	1.24%	1.17%	2.25%	2.22%
Diabetes mellitus type 1	0.88%	2.35%	1.55%	0.91%	0.95%	1.52%	1.52%
Congenital heart anomalies	0.80%	2.35%	1.45%	1.01%	1.09%	1.70%	0.77%
Endocarditis	1.43%	2.41%	1.62%	0.84%	0.72%	1.49%	1.22%

Chronic kidney disease due to other and unspecified causes	0.54%	0.83%	1.84%	1.16%	1.69%	0.65%	0.80%
Tracheal, bronchus, and lung cancer	0.75%	2.02%	0.73%	0.76%	0.37%	2.08%	0.38%
<b>45 to 59</b>							
Ischemic heart disease	48.15%	37.30%	30.83%	55.57%	47.74%	38.27%	27.46%
Hypertensive heart disease	5.05%	9.25%	6.68%	11.59%	4.97%	11.17%	18.41%
Chronic kidney disease	1.81%	4.89%	13.78%	5.82%	7.04%	7.11%	7.33%
Rheumatic heart disease	2.37%	1.25%	1.79%	1.74%	11.22%	3.89%	2.33%
Chronic obstructive pulmonary disease	2.01%	5.03%	3.11%	2.62%	7.62%	5.24%	3.79%
Cirrhosis and other chronic liver diseases	4.86%	5.89%	5.34%	2.74%	3.70%	4.09%	6.52%
Diabetes mellitus type 2	1.40%	3.23%	7.58%	3.48%	3.46%	5.02%	6.73%
Other cardiomyopathy	8.33%	5.25%	4.66%	1.36%	0.11%	1.52%	5.63%
Intracerebral hemorrhage	1.59%	1.00%	1.42%	1.18%	2.10%	4.63%	3.58%
Tracheal, bronchus, and lung cancer	2.49%	5.60%	1.46%	1.44%	0.68%	4.00%	0.97%
Chronic kidney disease due to hypertension	0.25%	1.22%	2.78%	1.71%	1.53%	2.58%	2.57%
Chagas disease			1.83%				
Alcoholic cardiomyopathy	13.35%	2.40%	0.76%	0.12%	0.13%	0.36%	0.24%
Ischemic stroke	2.13%	0.51%	0.72%	2.13%	0.76%	2.62%	0.97%
Chronic kidney disease due to diabetes mellitus type 2	0.25%	0.95%	2.08%	1.23%	1.19%	1.55%	1.13%
Colon and rectum cancer	1.13%	2.65%	1.09%	0.66%	0.49%	1.69%	0.68%
Chronic kidney disease due to glomerulonephritis	0.44%	0.83%	3.48%	0.45%	1.04%	0.53%	1.55%
Chronic kidney disease due to diabetes mellitus type 1	0.16%	0.33%	1.40%	0.51%	0.81%	1.13%	0.78%
Chronic kidney disease due to other and unspecified causes	0.31%	0.63%	1.64%	0.79%	1.05%	0.39%	0.50%
Other cardiovascular and circulatory diseases	0.63%	0.94%	0.65%	0.89%	0.57%	0.29%	1.11%
<b>60 to 69</b>							
Ischemic heart disease	59.06%	37.01%	32.20%	53.76%	43.20%	36.41%	30.61%
Chronic obstructive pulmonary disease	3.27%	9.12%	5.33%	3.75%	16.58%	10.60%	6.07%
Hypertensive heart disease	6.31%	6.56%	7.39%	12.90%	6.06%	12.59%	18.40%
Chronic kidney disease	1.67%	5.87%	13.40%	6.28%	5.73%	5.78%	6.78%
Diabetes mellitus type 2	2.00%	3.46%	8.47%	3.94%	4.41%	4.52%	7.96%
Rheumatic heart disease	1.49%	1.34%	1.03%	0.99%	7.12%	3.50%	2.17%
Ischemic stroke	4.65%	1.20%	1.76%	3.28%	2.16%	5.00%	2.51%
Tracheal, bronchus, and lung cancer	2.93%	6.98%	1.71%	1.40%	0.73%	4.54%	1.03%
Intracerebral hemorrhage	1.44%	1.00%	1.34%	0.89%	2.54%	4.45%	3.65%
Cirrhosis and other chronic liver diseases	2.47%	3.24%	3.30%	2.43%	2.20%	2.14%	4.95%
Chronic kidney disease due to hypertension	0.36%	1.88%	3.85%	2.35%	1.62%	2.57%	2.93%
Other cardiomyopathy	3.73%	4.17%	3.67%	1.07%	0.12%	1.02%	4.17%
Chagas disease			1.69%				
Chronic kidney disease due to diabetes mellitus type 2	0.27%	1.37%	2.53%	1.57%	1.29%	1.45%	1.34%
Colon and rectum cancer	1.46%	2.80%	1.05%	0.56%	0.47%	1.47%	0.65%
Alcoholic cardiomyopathy	4.76%	1.57%	0.38%	0.08%	0.10%	0.13%	0.11%
Chronic kidney disease due to glomerulonephritis	0.35%	0.65%	2.69%	0.33%	0.70%	0.35%	1.03%
Chronic kidney disease due to other and unspecified causes	0.27%	0.72%	1.55%	0.77%	0.72%	0.34%	0.46%
Non-rheumatic calcific aortic valve disease	0.56%	2.06%	1.01%	0.49%	0.35%	0.25%	0.38%
Other cardiovascular and circulatory diseases	0.59%	0.79%	0.58%	0.79%	0.57%	0.26%	1.02%
<b>70 to 79</b>							
Ischemic heart disease	65.77%	35.58%	33.38%	50.68%	39.42%	35.59%	32.41%
Chronic obstructive pulmonary disease	3.40%	10.99%	8.01%	4.64%	23.07%	16.15%	7.46%
Hypertensive heart disease	7.34%	6.19%	8.96%	15.23%	7.30%	14.06%	18.39%
Chronic kidney disease	1.44%	6.74%	11.27%	6.45%	4.61%	4.60%	7.24%
Ischemic stroke	7.53%	2.81%	3.69%	4.91%	3.62%	7.19%	4.33%
Diabetes mellitus type 2	1.61%	3.28%	8.24%	3.39%	4.29%	3.26%	6.99%
Rheumatic heart disease	0.74%	1.67%	0.70%	0.72%	5.28%	2.93%	1.50%
Intracerebral hemorrhage	1.15%	1.06%	1.14%	0.79%	1.99%	3.86%	3.29%
Tracheal, bronchus, and lung cancer	1.39%	5.28%	1.44%	0.94%	0.60%	3.02%	0.80%
Chronic kidney disease due to hypertension	0.41%	2.48%	3.88%	2.74%	1.47%	2.17%	3.41%
Other cardiomyopathy	2.62%	4.00%	3.32%	0.82%	0.16%	0.74%	2.93%
Cirrhosis and other chronic liver diseases	0.85%	1.57%	2.12%	2.22%	1.40%	1.16%	2.99%
Chagas disease			1.29%				
Chronic kidney disease due to diabetes mellitus type 2	0.24%	1.51%	2.25%	1.54%	1.03%	1.14%	1.51%
Colon and rectum cancer	1.16%	2.44%	0.98%	0.49%	0.44%	1.05%	0.57%
Non-rheumatic calcific aortic valve disease	0.61%	3.50%	0.99%	0.45%	0.42%	0.13%	0.42%
Chronic kidney disease due to other and unspecified causes	0.24%	0.89%	1.40%	0.82%	0.62%	0.35%	0.54%
Other cardiovascular and circulatory diseases	0.47%	0.79%	0.62%	0.89%	0.62%	0.24%	1.09%
Interstitial lung disease and pulmonary sarcoidosis	0.09%	1.37%	0.67%	0.18%	1.08%	0.13%	0.21%
Chronic kidney disease due to glomerulonephritis	0.24%	0.59%	1.78%	0.29%	0.59%	0.27%	0.91%
<b>80 plus</b>							
Ischemic heart disease	67.43%	37.32%	37.65%	50.61%	38.34%	39.75%	33.49%

Chronic obstructive pulmonary disease	2.68%	7.97%	10.07%	5.00%	26.45%	18.15%	6.83%
Hypertensive heart disease	8.10%	10.17%	11.30%	17.02%	8.20%	15.01%	18.78%
Ischemic stroke	9.06%	5.22%	5.49%	6.28%	4.60%	7.87%	6.60%
Chronic kidney disease	1.24%	7.38%	8.99%	6.05%	3.81%	3.50%	7.60%
Diabetes mellitus type 2	0.91%	2.36%	5.94%	2.48%	4.58%	1.97%	6.19%
Chronic kidney disease due to hypertension	0.48%	3.54%	3.94%	2.89%	1.46%	1.77%	4.03%
Other cardiomyopathy	4.41%	3.98%	2.90%	0.73%	0.13%	0.72%	2.89%
Non-rheumatic calcific aortic valve disease	0.64%	6.11%	0.78%	0.39%	0.48%	0.09%	0.50%
Rheumatic heart disease	0.36%	1.68%	0.38%	0.47%	4.06%	2.26%	1.00%
Intracerebral hemorrhage	0.70%	0.73%	0.68%	0.60%	1.21%	2.88%	2.30%
Tracheal, bronchus, and lung cancer	0.43%	1.70%	0.72%	0.44%	0.31%	1.39%	0.40%
Chronic kidney disease due to diabetes mellitus type 2	0.17%	1.26%	1.80%	1.22%	0.72%	0.84%	1.47%
Colon and rectum cancer	0.65%	1.45%	0.74%	0.37%	0.38%	0.63%	0.48%
Cirrhosis and other chronic liver diseases	0.27%	0.60%	1.13%	1.71%	0.98%	0.62%	1.88%
Chagas disease			0.75%				
Chronic kidney disease due to other and unspecified causes	0.22%	1.12%	1.13%	0.89%	0.57%	0.31%	0.68%
Other cardiovascular and circulatory diseases	0.37%	0.69%	0.71%	0.93%	0.66%	0.23%	1.01%
Endocarditis	0.07%	1.21%	0.25%	0.19%	0.20%	0.17%	0.21%
Interstitial lung disease and pulmonary sarcoidosis	0.05%	0.75%	0.70%	0.14%	0.90%	0.08%	0.16%

*Proportions in the above table are unique by super region and age group. For each individual percentage in the table, the denominator used in its calculation was the total deaths redistributed across all causes within its respective super region and age group. Thus, column percentages within each age group will add to, or very close to, 100%. Only the top 20 redistribution targets are listed, so it is possible that some columns may not quite total 100%.*

# Appendix Figure 12

Custom N-Code Groups for X59/Y34 Redistribution by ICD Classification System		
	ICD Classification System	
Group Name	ICD9	ICD10
Group 1	896.0, 885.1, 886, 886.0, 886.1, 887, 887.0, 887.1, 887.2, 887.3, 885.0, 896.1, 896, 895.1, 895.0, 895, 888.9, 888.2, 888.1, 888, 887.7, 887.4, 887.6, 885, 896.3, 896.2, 897.7, 897.6, 897.5, 897.4, 887.5, 897.2, 897.1, 897.0, 897, 897.3	T05.6, S68.4, S68.5, S68.6, S68.7, S68.8, S68.9, S58.1, S58.0, S68.3, S58, S78.0, S78.1, S78.9, S48, S48.0, S48.1, S48.9, T05.5, S78, S68.2, S58.9, S68.0, T05.2, T05.3, S68.1, T05.4, T05.0, S98.9, S98.4, T11.6, S98.2, S98.1, S98.3, S98, S68, S88.9, S88.1, S88.0, S88, S98.0, T05.1
Group 2	944.4, 944.2, 944.1, 944.0, 944, 943.5, 943.4, 943.3, 943.2, 943.1, 944.3, 949.5, 944.5, 946.0, 946, 945.5, 945.4, 949.4, 945.3, 945.2, 945.1, 945.0, 946.2, 946.3, 946.4, 946.5, 947.0, 947.4, 947, 947.1, 947.2, 947.3, 947.8, 945, 943.0, 946.1, 943, 942.4, 949.0, 948.1, 948.2, 948.3, 949, 948.9, 906.5, 948.4, 948.5, 948.6, 948.7, 948.8, 906.9, 906.8, 942.5, 949.1, 906.6, 949.2, 941.2, 942.3, 942.2, 942.1, 942.0, 942, 941.5, 941.4, 941.3, 906.7, 941.1, 941.0, 941, 947.9, 948, 948.0, 949.3	T23.7, T23.6, T24, T24.1, T24.2, T24.3, T23.5, T25.2, T24.5, T24.6, T24.7, T25, T25.0, T25.1, T25.3, T25.4, T25.5, T23.4, T25.6, T25.7, T24.4, T23.3, T22, T23.1, T20, T20.0, T20.1, T20.2, T20.3, T20.4, T20.5, T20.6, T20.7, T21, T21.0, T21.1, T21.2, T21.3, T23.2, T21.4, T21.6, T21.7, T21.9, T27, T22.0, T22.1, T22.2, T22.3, T22.4, T22.5, T22.6, T22.7, T23, T23.0, T21.5, T27.0, T24.0, T27.2, T29, T29.0, T29.1, T95.0, T30.1, T32.7, T32.6, T32.5, T32.4, T32.3, T32.2, T31.4, T31.3, T31.2, T31.1, T31.0, T30.7, T30.2, T30.3, T30.4, T30.0, T30, T29.7, T28.9, T29.6, T29.4, T29.3, T29.2, T27.1, T30.5, T30.6, T29.5, T28.8, T95, T28.6, T95.2, T95.3, T95.4, T32.8, T27.5, T32.9, T28.7, T27.6, T27.7, T27.4, T28, T28.0, T31.7, T95.1, T32.0, T28.5, T28.4, T31.5, T28.3, T31.8, T27.3, T31.9, T31.6, T32.1, T28.1, T28.2
Group 3	835, 835.0, 835.1	S73.0, S73
Group 4	836.6, 836, 836.0, 836.1, 836.2, 836.3, 836.4, 836.5	S83.7, S83.9, S83.8, S83.0, S83.1, S83
Group 5	838, 840.7, 840.6, 840.5, 840.4, 840.3, 840.2, 837, 840.1, 837.0, 840.0, 838.0, 838.1, 839, 839.0, 839.1, 839.2, 837.1, 839.3, 839.5, 839.6, 839.7, 839.8, 839.9, 840, 839.4, 840.8, 848, 841, 846.0, 846.1, 846.2, 846.3, 846.8, 846.9, 847, 847.0, 847.2, 847.3, 847.4, 847.9, 848.0, 848.1, 848.2, 848.3, 848.4, 848.5, 848.8, 848.9, 849, 846, 840.9, 845.1, 845, 841.0, 841.1, 841.2, 841.3, 841.8, 841.9, 842, 842.0, 842.1, 843, 843.0, 843.1, 843.8, 843.9, 844, 844.0, 844.1, 844.2, 844.3, 844.8, 844.9, 845.0, 834.1, 847.1, 834, 905.8, 834.0, 830, 905.7, 830.1, 832, 830.0, 832.1, 832.2, 833, 833.0, 833.1, 832.0, 905.6	S86.8, S43.8, S43.7, S43.6, S43.5, S86.9, S66.5, S66.6, S43.9, S66.7, S46, S43.4, S96.0, S93.0, T03.9, T03.8, T03.4, T03.3, T03.2, T03.1, T03.0, T03, S06.9, S99.9, S99.8, S99.7, S99, S66.9, S93, S66.8, S96.8, S96.7, S96.2, S96.1, S69, S39.0, S39.6, S96, S93.6, S93.5, S93.4, S93.3, S93.2, S93.1, S96.9, S69.7, S46.9, S69.9, S73.1, S76, S76.0, S53.4, S53.7, S56, S56.0, S76.1, S76.2, S76.3, S56.1, S56.2, S56.3, S56.4, S56.5, S56.7, S56.8, S56.9, S76.4, S76.7, S76.8, S59.7, S59.8, S59.9, S66.4, S66.3, S66.2, S66.1, S76.9, S53.3, S53.2, S53.1, S63, S63.9, S63.7, S63.6, S63.5, S63.4, S63.3, S46.0, S46.1, S46.2, S46.3, S46.7, S46.8, S86.7, S86.3, S69.8, S86.2, S49.8, S49.9, S86.0, S86, S83.6, S83.5, S83.4, S83.3, S83.2, S63.2, S63.1, S63.0, S53, S53.0, S86.1, S33.8, S33.2, S66.0, S23.3, S23.4, S23.5, S23.8, S23.9, T93.3, S23.2, T93.5, S29, S29.0, S03.9, S03.8, S03.5, S03.4, S13.8, S23.1, S23.0, S23, S13.6, S13.5, S16, S16.1, S13.4, S13.3, S13.2, S16.2, S16.8, S16.9, T92.3, S13.1, S13.0, S13, T06.4, S03.3, S03.2, S13.9, S33.4, T14.3, S33.9, S33, S33.1, S33.7, T13.2, S33.5, S33.6, S66, T11.2, T09.5, S03, S03.0, S03.1, T09.2, S33.0, S33.3
Group 6	810, 810.0, 810.1, 811, 812.1, 811.1, 812, 812.0, 812.2, 812.3, 812.4, 812.5, 811.0	T92.1, S49.7, S49.1, S49.0, S42.9, S42.7, S49, S42.8, S42.0, S42.1, S42, S42.2, S42.3, S42.4
Group 7	802.8, 802.9, 802.7, 802.2, 802.5, 802.4, 802.3, 802.1, 802.0, 802, 802.6	S02.2, S02.7, S02.6, S02.5, S02.4, S02.3
Group 8	826.6, 826.1, 826.0, 826, 825.3, 825.1, 825.0, 825, 825.2	S92.9, S92.7, S92.2, S92.4, S92, S92.0, S92.1, S92.3, S92.5
Group 9	814, 814.0, 814.1, 815, 815.1, 815.0, 816.0, 817.1, 816, 816.1, 817	S62.3, S62.7, S62.0, S62.1, S62.2, T92.2, S62.4, S62.5, S62.6, S62.8, S62.9, S62
Group 10	820.9, 820.8, 820.3, 820.2, 820.0, 820.1, 820, 905.3	S72.0, S72.1, S72.2
Group 11	823.8, 823.9, 824, 824.0, 824.1, 824.2, 824.5, 905.4, 824.9, 824.8, 824.7, 823.4, 824.4, 824.6, 824.3, 823.3, 822.0, 822, 822.1, 823, 823.0, 823.1, 823.2	S82.5, S89.1, S89.2, S89.3, S89.7, S82.9, S82.8, S82.7, S82.6, S82.4, S89.0, S82.2, S82.1, S82.0, S82, S82.3
Group 12	808.8, 808.5, 808.0, 808, 808.4, 808.9, 808.2, 808.1, 808.3	S32.3, S32.9, S32.8, S32.7, S32.5, S32.4
Group 13	813, 813.0, 813.1, 813.3, 813.4, 813.5, 813.8, 813.9, 905.2, 813.2	S52.6, S52.7, S59.0, S52.9, S59.1, S52.8, S52.4, S52.5, S52.2, S59.2, S52.3, S59, S52.1, S52, S52.0
Group 14	uns, 905.0, 803.1, 803.2, 803.3, 803.4, 803.5, 803.6, 803.7, 803.8, 803.9, 804, 803.0, 804.0, 804.2, 804.4, 804.5, 804.6, 804.7, 804.8, 804.9, 831, 831.0, 831.1, 804.1, 803, 804.3, 801.8, 800.2, 800.3, 800.4, 800.5, 800.6, 800.7, 801.9, 800.8, 800.9, 800.0, 800.1, 801, 800, 801.6, 801.5, 801.4, 801.7, 801.2, 801.1, 801.0, 801.3	S02.1, S02, S43.0, S43, S02.8, S43.3, S43.2, S43.1, S02.0, S02.9
Group 15	807.3, 807.2, 807.1, 807.0, 807	S22.9, S22.5, S22.4, S22.3, S22.2, S22.8
Group 16	805.9, 805.8, 805.5, 805.6, 805.7, 805, 805.0, 805.1, 905.1, 805.3, 805.2, 805.4	S12.6, S12.9, S12.4, S12.3, S12.2, S12.1, S12, S12.7, S12.8, S12.5, S12.0, T08, S22, T08.0, S32.2, T91.1, S22.0, S22.1, S32.1, S32.0, S32
Group 17	821.2, 821.3, 821.0, 821, 821.1	S72.4, S72.7, S72.8, S72.9, S72.3, S72, T93.1, S79, S79.1, S79.0
Group 18	850, 850.9, 850.5, 850.4, 850.3, 850.2, 850.1, 850.0	S06.0
Group 19	907, 852.0, 907.0, 852.1, 852, 852.2, 852.3, 852.4, 852.5	T90.5, S06.3, S06.4, S06.6, S06.9, S06.5, T90.2, S06, S06.1, S07

Group 20	851.0, 851.8, 851.7, 851, 854.1, 854.0, 854, 853.1, 851.9, 851.5, 851.4, 851.3, 851.6, 851.2, 853.0, 853, 851.1	S06.2, S06.8, S06.7
Group 21	935.1, 935.2, 936, 937, 939, 938.9, 935.0, 939.0, 939.1, 939.2, 938, 935, 934.0, 934.8, 934.1, 934, 933.1, 933.0, 933, 932, 939.9, 931, 934.9, 939.3	T17.8, T17.4, T17.9, T18, T17.5, T16.2, T17.3, T17.2, T17.1, T17.0, T16, T17, T16.9, T16.1, T18.0, T19.0, T18.2, T18.3, T18.4, T18.5, T18.8, T18.9, T19, T19.1, T19.2, T19.3, T19.4, T19.8, T19.9, T18.1
Group 22	952, 952.0, 806.0, 806, 806.1	S14.1, T91.3, S14.0, S14
Group 23	806.9, 952.3, 952.4, 952.8, 952.9, 952.2, 806.8, 806.7, 806.6, 806.5, 952.1, 806.3, 806.2, 806.4	S24.1, S24.0, S24, S34, S34.0, S34.1
Group 24	994.1, 995.0	T75.1
Group 25	994.7, 995.1	T71.2, T71.9, T71, T71.1, T71.0
Group 26	906.4, 995.2, 927.3, 927.2, 927.1, 926.8, 926.9, 926.1, 926.0, 926, 925.2, 925.1, 925, 927, 927.0, 928, 928.3, 928.8, 928.2, 928.1, 928.0, 928.9, 927.9, 927.8, 929.9	S67.9, S97.0, S77.0, S77.1, S77.2, S87, S87.0, S87.8, S97, S97.1, S97.8, S67.8, S77, S67.4, S67.1, S67.2, S47.1, S47, S57, S38.2, S57.8, S57.9, T92.6, S47.2, S67.3, S07.8, S07.1, S07.0, T93.6, S38, S38.0, S38.1, S07.9, S47.9, S57.0, S38.3, S18, S17.8, S17.0, S17.9, S17, S67.0, S67
Group 27	955.2, 955.4, 955.1, 907.8, 907.5, 907.4, 955.0, 955, 907.1, 954.9, 955.6, 954.8, 955.3, 955.5, 951.8, 955.7, 955.8, 956.9, 956.8, 956.5, 956.4, 951.0, 956.3, 956.2, 956.1, 956.0, 956, 955.9, 954.1, 954.0, 953.4, 953.9, 951.9, 957.0, 957, 951.6, 951.5, 951.4, 951.3, 953, 953.0, 953.1, 953.2, 957.1, 951.2, 954, 957.8, 950, 950.0, 950.1, 950.2, 950.3, 950.9, 951, 995.2, 907.9, 953.3, 951.7, 953.5, 953.8, 957.9, 951.1, 907.3	S54.2, S94.9, S44.0, S54.3, S94.8, S94.7, S94.3, S94.2, S94.1, S94, S44, S44.1, S84.8, S54.1, S84.9, S54, S84, S84.0, S44.3, S84.1, S44.4, S44.5, S44.7, S44.8, S44.9, S84.2, S84.7, S44.2, S54.0, S04.2, S04.0, S14.2, S14.3, S14.4, S14.5, S14.6, S14.8, S14.9, T90.3, S24.9, S24.8, S24.6, S24.5, S24.4, S24.3, S24.2, S34.2, T13.3, S34.3, S34.4, S04.1, S54.7, S04.3, S04.4, S04.5, S04.6, S04.7, S04, S04.8, T93.4, T92.4, S34.9, S34.8, S34.6, S34.5, T11.3, S04.9, S54.8, S94.0, S64.3, S64.0, S64, S64.4, S74, S74.0, S74.1, S74.2, S64.9, S74.8, S74.7, S64.1, S64.2, S54.9, S64.7, S74.9, S64.8
Group 28	871.0, 940.4, 940.3, 940.2, 940.1, 940.0, 940, 918.0, 870.4, 930.9, 930.8, 930.2, 930.1, 930.0, 930, 940.5, 870.3, 870.2, 870.1, 870.0, 870, 921.9, 921.3, 921.2, 921.1, 921.0, 921, 871.1, 918.9, 918.2, 918.1, 995.2, 940.9, 918, 871, 871.2, 871.3, 871.4, 871.5, 871.6, 871.7, 871.9, 870.9, 870.8	S05.9, T26.9, T26.1, T26.0, T15.9, T15.8, T26.3, T15.0, T15, T14.4, T26.4, T26.5, T26.6, T26.7, T26.8, T15.1, T26, T26.2, S05.7, S05.6, S05.5, S05.4, S05.3, T90.4, S05.8, S05.2, S01.1, S05.1, S05.0, S05
Group 29	883.2, 884, 884.2, 884.1, 883.1, 884.0, 873, 873.0, 883, 882.2, 890, 882.1, 873.1, 873.2, 873.3, 873.4, 883.0, 890.0, 874.9, 890.2, 872, 872.0, 872.1, 872.6, 872.7, 872.8, 872.9, 893, 892.2, 892.1, 892.0, 892, 891.2, 891.1, 873.5, 891.0, 891, 890.1, 873.6, 882, 874.8, 874.3, 874.4, 874.5, 878.6, 878.5, 878.4, 878.3, 878.2, 878.1, 874.2, 878.0, 877.1, 877.0, 877, 876.1, 876.0, 876, 875.1, 875.0, 875, 878, 882.0, 873.9, 878.8, 881.2, 881.1, 881.0, 881, 880.2, 880.1, 880.0, 880, 879.9, 878.7, 879.8, 879.6, 879.5, 879.4, 879.3, 873.7, 873.8, 879.0, 879, 878.9, 879.7, 879.1, 879.2, 900.1, 904.9, 900.8, 900.0, 900.9, 893.2, 894, 893.1, 894.0, 893.0, 906, 906.0, 906.1, 906.2, 894.1, 894.2, 904.8, 900, 904.7, 904.5, 903, 903.0, 903.1, 903.2, 903.3, 903.4, 903.5, 903.8, 903.9, 904, 904.0, 904.1, 904.2, 904.3, 904.4, 904.6, 995.2	S10, T01.8, S10.7, T93.0, S11, S09.3, S11.1, T01.3, T92.5, T01.1, T01.0, T01.6, T01.9, S61.2, S09.1, S09.0, S09, S08.9, S61.3, S61.4, S61.5, S08.8, S08.1, S08.0, S08, S61.9, S61.8, S61.7, S09.2, S55, S71.0, T09.1, S15.3, S15.7, S15.8, S15.9, S65, S65.0, S65.1, T92.0, S65.2, S21, S21.0, S21.1, S21.2, S21.3, T90.1, S65.3, S65.4, S65.5, S65.7, S65.8, S65.9, S21.9, S21.8, S15.2, S15.1, S15.0, S15, S71.7, S71.1, T11.1, T01, S71, T11.4, T11.5, T13.1, T13.4, T13.5, T14.1, S71.8, T14.5, S31.8, S31.7, S31.5, S31.4, S31.3, S31.2, S31.1, S31.0, S31, S11.8, S11.9, T14.6, S01.9, T01.2, S01.7, S45.8, S45.7, S45.3, S45.2, S45.1, S45.0, S45, S55.7, S55.8, S45.9, S55.9, S91, S91.0, S91.1, S91.2, S91.3, S91.7, S41.8, S41.7, S41.1, S01.8, S41.0, S85.9, S85.7, S55.0, S55.1, S55.2, S81.9, S81.8, S51.9, S51.8, S51.7, S51.0, S85.8, S51, S81.0, S81, S85, S85.0, S85.1, S85.2, S85.3, S85.4, S85.5, S81.7, S41, S21.4, S75.7, S95, S95.0, S95.1, S95.2, S95.7, S75.9, S95.8, S95.9, S39.7, S39, S61.1, S61.0, S75.8, S61, S01.2, S21.7, S75.1, S75.2, S75, S01, S01.0, S75.0, S01.3, S01.4, S01.5



Group 30	969.6, 964.9, 965, 965.0, 965.1, 965.5, 964.8, 965.4, 964.3, 964.6, 964.5, 964.4, 964.2, 964.1, 964.0, 964, 963.9, 963.8, 963.5, 964.7, 965.6, 967.1, 965.8, 968.7, 968.6, 968.5, 968.4, 968.3, 968.2, 968.1, 968.0, 968, 967.9, 967.8, 967.6, 965.7, 967.5, 967.3, 967.2, 963.4, 967.0, 967, 966.4, 966.3, 966.2, 966.1, 966.0, 966, 965.9, 967.4, 963.3, 963, 963.1, 972.1, 972.2, 972.3, 960.0, 960.1, 960.2, 960.3, 972.0, 960.4, 972.4, 972.5, 972.6, 972.7, 972.8, 972.9, 973, 960.5, 972, 971.9, 960, 969.7, 969.8, 969.9, 970, 970.0, 970.1, 970.8, 969.4, 969.3, 969.2, 969.1, 969.0, 970.9, 971, 971.0, 971.1, 971.2, 973.0, 963.2, 973.1, 973.3, 961.7, 961.8, 961.9, 962, 962.0, 962.1, 962.2, 961.6, 962.3, 962.5, 962.6, 962.7, 962.8, 962.9, 969.5, 963.0, 962.4, 961.5, 961.4, 961.3, 973.4, 973.5, 973.6, 973.8, 973.9, 974, 974.0, 974.1, 974.2, 960.6, 960.7, 960.8, 960.9, 961, 961.0, 961.1, 961.2, 973.2, 971.3, 989, 979.1, 981.5, 995.2, 981.6, 981.7, 981.9, 982, 982.0, 982.1, 982.2, 982.3, 982.4, 982.8, 983, 983.0, 983.1, 981.3, 981.2, 981, 980.9, 978.9, 979, 979.0, 979.2, 979.3, 979.4, 979.5, 983.2, 979.6, 979.9, 980, 980.0, 980.1, 980.2, 980.3, 980.8, 979.7, 978.8, 983.5, 983.9, 987.2, 987.3, 987.4, 987.5, 987.6, 987.7, 988.9, 987.8, 987.9, 988, 988.0, 988.1, 988.2, 988.6, 988.8, 987.1, 987.0, 987, 986, 984, 984.0, 984.1, 984.3, 984.8, 984.9, 985, 983.7, 985.0, 985.2, 985.3, 985.4, 985.5, 985.6, 985.8, 985.9, 985.1, 978.6, 969, 989.6, 975.4, 975.5, 977.3, 977.2, 977.1, 977.0, 977, 976.9, 989.9, 989.8, 989.7, 975.6, 989.5, 989.4, 989.3, 989.2, 989.1, 976.8, 976.7, 976.6, 976.5, 976.4, 976.3, 976.2, 976.1, 976.0, 976, 975.3, 975.2, 975.1, 975.0, 968.9, 989.0, 978.5, 974.3, 978.4, 978.3, 978.2, 978.1, 978.0, 978, 977.9, 977.8, 975.8, 977.4, 974.5, 974.6, 974.7, 975, 974.4, 975.7	T45.4, T45.3, T45.5, T40, T40.0, T45.6, T42.6, T45.8, T39.9, T96, T96.0, T46.2, T42.8, T43, T43.0, T43.1, T43.2, T46.1, T46.0, T46, T42.7, T40.1, T42.5, T42.4, T45.9, T45.7, T40.2, T44.8, T43.3, T40.7, T44.4, T44.5, T40.8, T40.9, T41.3, T41.2, T44.3, T41.1, T41, T45.2, T45.1, T45.0, T45, T44.6, T44.7, T41.0, T40.3, T40.6, T44.1, T43.4, T42.3, T42.2, T42.1, T42.0, T44.9, T42, T40.5, T41.5, T43.5, T43.6, T43.8, T40.4, T43.9, T44, T44.0, T41.4, T44.2, T60.2, T65.8, T57.8, T57.3, T50.4, T57.2, T57.1, T57.0, T57, T57.9, T56.9, T56.7, T56.6, T56.5, T50.5, T50.6, T50.7, T50.8, T56.8, T58, T58.0, T58.1, T49.6, T49.7, T49.8, T49.9, T50, T50.0, T50.1, T50.2, T50.3, T59.3, T59.2, T59.1, T59.0, T59, T58.9, T58.8, T58.2, T50.9, T51, T51.0, T51.1, T54.3, T54.2, T54.1, T54.0, T54, T53.9, T53.7, T52.9, T53, T53.0, T53.1, T53.2, T53.3, T53.4, T53.5, T53.6, T39.8, T54.9, T49.5, T55, T52.8, T51.2, T51.3, T51.8, T56.4, T56.3, T56.2, T56.1, T56.0, T56, T55.1, T51.9, T52, T52.0, T52.1, T52.2, T52.3, T52.4, T55.0, T65.9, T49.4, T49.2, T63, T62.9, T62.8, T62.2, T62.1, T62.0, T62, T63.0, T61.9, T61.7, T61.2, T46.3, T46.4, T46.5, T46.6, T61.1, T61.8, T63.1, T63.2, T63.3, T65.6, T65.5, T65.4, T65.3, T65.2, T65.1, T65.0, T65, T64.8, T64.0, T64, T63.9, T63.8, T63.7, T63.6, T63.5, T63.4, T46.7, T46.8, T46.9, T47, T48.3, T48.4, T48.5, T60.0, T60, T59.9, T59.8, T59.7, T59.6, T59.5, T59.4, T48.6, T48.7, T48.9, T49, T49.0, T49.1, T48.2, T49.3, T48.1, T48, T61.0, T47.0, T47.1, T47.2, T47.3, T47.4, T47.5, T47.6, T61, T60.9, T60.8, T60.4, T60.3, T60.1, T47.7, T47.8, T47.9, T48.0, T39.4, T97.0, T39.2, T37.1, T37.0, T37, T36.9, T36.8, T36.7, T36.6, T36.5, T36.4, T36.3, T36.2, T36.1, T36.0, T36, T39.3, T37.2, T37.3, T97, T37.5, T39.1, T39.0, T39, T38.9, T38.8, T37.4, T38.6, T38.5, T38.7, T38.3, T38.2, T38.1, T38.0, T38, T37.9, T37.8,
Group 31	901.9, 901.8, 901.4, 901.3, 901.2, 901.1, 901.0, 901, 908.0, 874.1, 807.1, 862.9, 807.4, 807.5, 807.6, 874, 860, 860.0, 860.1, 860.2, 860.3, 860.4, 860.5, 861, 861.0, 861.1, 995.2, 861.2, 861.3, 862, 862.0, 862.1, 862.2, 862.3, 862.8, 807.0, 874.0	S27.1, S27.2, S27.3, S27.4, S27.5, S27.6, S29.8, S27.8, S27.9, S28, S28.1, S28.2, S29.7, S27.0, S27.7, S27, S25.5, S26.8, S11.0, S29.9, S11.7, T91.4, S25, S25.0, S25.1, S26.9, S25.2, S25.4, S25.7, S25.8, S25.9, S26, S26.0, S26.1, S25.3, S11.2, S28.0
Group 32	902.9, 868.0, 866.1, 867, 867.0, 867.2, 867.3, 867.4, 867.5, 867.6, 867.7, 867.8, 867.9, 868, 902.8, 868.1, 868.3, 869, 869.0, 869.1, 908.3, 908.2, 908.1, 866.0, 866, 867.1, 865.0, 902.5, 902.4, 902.3, 902.2, 902.1, 902.0, 865.1, 995.2, 863, 863.0, 863.1, 902, 863.3, 863.2, 864.1, 864.0, 864, 865, 863.8, 863.5, 863.4, 863.9	S37.5, S36.9, S36.6, S35, S35.0, S35.1, S35.2, S35.3, S35.4, S35.5, S35.7, S35.8, S35.9, S36.7, S37.6, S36, S36.0, S36.1, S36.2, S36.3, S36.4, S36.5, S37, S37.0, S36.8, S37.9, T79.2, T79.1, T79.0, T79, S37.7, S37.8, T79.3, S39.8, T79.5, T79.4, T79.7, S37.4, T79.8, S37.3, S37.2, T91.5, S37.1, T79.9, T79.6
Group 33	922.9, 995.2, 920, 922, 922.0, 922.1, 922.2, 922.3, 922.4, 922.8, 923, 924.9, 923.1, 923.0, 924.8, 924.5, 924.4, 924.3, 924.2, 906.3, 924.0, 924, 923.9, 923.8, 923.3, 923.2, 924.1	S70, S60.9, S60.8, S60.7, S50.0, S60.1, S60.3, S60.2, S50, S60.0, S40, S40.0, S40.2, S60, S50.1, S60.5, S70.0, S60.4, S70.2, S20, S20.0, S30, S20.2, S30.0, S30.1, S70.1, S30.3, S90.4, S30.2, S80.0, S80, S90.3, S80.1, S80.2, S80.7, S90, S90.1, S90.2, S90.0
Group 34	993.2, 993.3, 993.4, 993.8, 993.9, 994, 994.0, 994.5, 994.3, 994.4, 994.6, 994.8, 994.9, 993.1, 995.3, 994.2, 993.0, 992, 992.9, 991.0, 991, 990, 993, 991.1, 991.2, 991.3, 991.5, 991.6, 991.8, 991.4, 992.0, 992.1, 992.8, 992.7, 992.2, 992.3, 992.4, 992.6, 991.9, 992.5	T34.1, T34.2, T34.3, T34.0, T34, T33.9, T33.8, T33.7, T33.6, T33.5, T34.4, T69.0, T34.6, T70.1, T70.2, T70.3, T70.4, T70.8, T70.9, T34.8, T34.9, T70.0, T35, T35.1, T75, T75.0, T35.2, T75.2, T75.3, T75.4, T75.8, T35.0, T70, T69.9, T69.8, T34.7, T66, T67, T67.0, T67.1, T67.2, T33.4, T67.3, T67.4, T67.5, T67.6, T67.7, T67.8, T67.9, T68, T68.0, T68.7, T69, T69.1, T34.5, T33.3, T33, T33.1, T95.9, T35.7, T35.6, T35.5, T35.4, T35.3, T95.8, T33.2, T33.0
Group 35	997.9, 998.4, 998.1, 998.2, 998.0, 998, 998.5, 998.3, 998.6, 999.2, 998.8, 998.9, 999, 999.0, 999.1, 997.8, 999.3, 999.4, 999.5, 998.7, 997.7, 996.8, 997.5, 999.7, 995, 995.4, 995.5, 995.6, 995.7, 995.8, 996, 996.0, 996.1, 996.2, 996.3, 996.4, 996.5, 996.6, 996.7, 996.9, 997, 997.0, 997.1, 997.2, 997.3, 997.4, 997.6, 999.6, 999.9, 999.8	T84.5, T84.8, T81.7, T81.6, T81.5, T81.4, T81.3, T84.9, T81.2, T85, T85.0, T85.1, T81.1, T81.0, T81, T80.9, T80.8, T80.6, T80.5, T80.4, T80.3, T80.2, T80.1, T80.0, T80, T81.8, T81.9, T82, T82.0, T84.4, T84.3, T84.2, T84.1, T84.0, T84, T83.9, T83.8, T83.7, T83.6, T83.5, T83.4, T84.6, T83.3, T83.1, T83.0, T83, T82.9, T82.8, T82.7, T82.6, T82.5, T82.4, T84.7, T82.2, T82.1, T83.2, T82.3, T85.3, T88.3, T87, T87.0, T88.9, T88.8, T88.7, T88.6, T88.5, T88.4, T87.1, T85.4, T88.2, T88.1, T88.0, T88, T87.9, T87.8, T87.6, T87.5, T87.4, T86.9, T87.3, T86.8, T86.4, T85.2, T85.5, T85.6, T85.7, T85.8, T85.9, T78.9, T78.8, T78.4, T78.3, T78.2, T78.1, T78.0, T78, T86, T86.0, T86.1, T86.2, T86.3, T86.5, T87.2

Group 36	912.2, 912.3, 912.4, 912.5, 912.6, 912.7, 912.8, 912.9, 913, 913.0, 919.9, 913.2, 913.3, 913.4, 913.5, 913.6, 913.7, 913.8, 914, 914.0, 914.1, 912.1, 913.1, 912.0, 911.9, 910, 910.0, 910.1, 910.2, 910.3, 910.4, 910.5, 910.6, 910.7, 910.8, 910.9, 911, 911.0, 911.1, 911.2, 911.3, 911.4, 911.5, 911.6, 911.7, 911.8, 912, 914.3, 913.9, 914.5, 916.9, 917, 917.0, 914.4, 917.2, 917.3, 917.4, 917.5, 917.6, 917.7, 916.8, 917.8, 919, 919.0, 919.1, 919.2, 919.3, 919.4, 919.5, 919.6, 919.7, 919.8, 917.9, 916.7, 917.1, 916.5, 914.6, 914.7, 914.8, 914.9, 916.6, 915.0, 915.1, 915.2, 915.3, 915.4, 915, 915.6, 915.5, 916.4, 916.3, 916.2, 916.1, 914.2, 916.0, 916, 915.9, 915.8, 915.7	S00.3, T90.0, S00.2, S00.7, S00.8, S00.1, S00.0, S00.9, S10.0, S00.4, S10.1, S10.9, S20.1, S20.3, S20.4, S20.7, S20.8, S20.9, S10.8, S00.5, S00, T14.0, S70.9, S80.8, S80.9, S90.4, S90.5, S90.7, S90.8, S90.9, T00, T00.0, T00.1, T00.3, T00.6, T00.8, T00.9, S70.8, S70.7, T00.2, S70.2, T13.0, T11.0, T09.0, S70.3, S30.7, S30.8, S40.2, S30.9, S40.8, S40.9, S50.3, S50.7, S50.8, S50.9, S40.7
Group 37	828.0, 828, 827.1, 827.0, 827, 819.1, 819.0, 819, 817.0, 929.0, 828.1	T04.7, T04.3, S09.7, T04.4, T04.2, T04.8, T06, T05, T05.8, T05.9, T04.1, T06.0, T06.1, T06.2, T04.9, T04.0, T02.4, T02.9, S79.7, T06.8, T07, T06.5, T07.0, T02, T02.0, T02.1, T02.2, T02.3, T02.5, T02.6, T02.7, S19.7, T02.8, T04, T06.3

# Appendix Figure 13

Redistribution Proportions for Unspecified External Factor (X59), Year 2015, Top 20 Underlying Causes							
Age Group and Cause	Central Europe, Eastern Europe, and Central Asia	High-income	Latin America and Caribbean	North Africa and Middle East	South Asia	Southeast Asia, East Asia, and Oceania	Sub-Saharan Africa
<b>0 to 14</b>							
Falls	26.08%	17.32%	14.88%	23.63%	47.13%	30.68%	16.34%
Other unintentional injuries	28.14%	12.53%	21.91%	27.53%	16.03%	16.32%	29.38%
Pedestrian road injuries	12.61%	18.31%	22.24%	17.43%	14.84%	22.71%	18.28%
Pulmonary aspiration and foreign body in airway	11.03%	19.32%	18.32%	4.31%	2.72%	9.70%	6.81%
Motor vehicle road injuries	6.77%	12.64%	6.80%	13.69%	2.41%	3.45%	8.01%
Other exposure to mechanical forces	2.24%	2.72%	1.89%	3.50%	2.37%	3.97%	4.88%
Motorcyclist road injuries	1.06%	1.92%	3.05%	2.97%	1.74%	3.00%	1.84%
Poisoning by other means	1.16%	1.26%	1.16%	0.88%	1.45%	1.20%	2.69%
Cyclist road injuries	1.23%	3.55%	2.00%	0.70%	1.40%	1.99%	1.15%
Other transport injuries	1.13%	3.09%	1.17%	1.15%	1.45%	0.94%	1.49%
Drowning	1.19%	0.86%	0.81%	0.43%	1.59%	1.86%	1.05%
Adverse effects of medical treatment	0.87%	1.40%	1.44%	0.82%	1.04%	0.82%	1.88%
Non-venomous animal contact	0.57%	0.75%	0.56%	0.43%	0.78%	0.49%	1.85%
Venomous animal contact	0.05%	0.05%	0.21%	0.20%	2.49%	0.17%	0.56%
Other road injuries	0.64%	1.11%	1.54%	0.43%	0.69%	0.59%	0.85%
Environmental heat and cold exposure	0.79%	0.61%	0.31%	0.23%	1.05%	0.23%	0.89%
Poisoning by carbon monoxide	2.76%	0.85%	0.29%	0.72%	0.19%	1.16%	0.33%
Fire, heat, and hot substances	0.78%	0.64%	0.33%	0.40%	0.36%	0.21%	0.73%
Unintentional firearm injuries	0.35%	0.70%	0.65%	0.37%	0.05%	0.11%	0.62%
Foreign body in other body part	0.57%	0.34%	0.43%	0.18%	0.21%	0.40%	0.37%
<b>15-49 years</b>							
Other unintentional injuries	24.90%	10.65%	22.98%	24.68%	30.29%	26.06%	20.50%
Falls	29.89%	27.27%	16.45%	17.08%	25.19%	24.91%	15.42%
Pedestrian road injuries	10.66%	11.96%	18.22%	16.01%	13.45%	21.36%	22.13%
Motorcyclist road injuries	3.36%	11.49%	17.43%	7.50%	13.60%	9.71%	4.67%
Motor vehicle road injuries	12.59%	23.08%	12.38%	21.84%	5.77%	6.39%	18.91%
Other exposure to mechanical forces	2.25%	2.33%	1.53%	4.93%	1.66%	3.36%	3.54%
Other transport injuries	2.36%	3.27%	1.90%	2.17%	3.00%	1.44%	2.98%
Cyclist road injuries	1.02%	2.12%	2.04%	0.78%	2.59%	2.64%	2.23%
Other road injuries	0.43%	0.86%	2.06%	0.45%	0.51%	0.81%	1.46%
Pulmonary aspiration and foreign body in airway	2.76%	2.41%	1.65%	0.72%	0.13%	0.44%	1.21%
Environmental heat and cold exposure	4.43%	0.77%	0.23%	0.24%	0.69%	0.18%	1.20%
Poisoning by carbon monoxide	2.82%	1.03%	0.22%	0.89%	0.11%	0.77%	0.35%
Poisoning by other means	0.34%	0.58%	0.39%	0.39%	0.28%	0.89%	1.05%
Adverse effects of medical treatment	0.42%	0.69%	0.44%	0.73%	0.70%	0.28%	1.19%
Venomous animal contact	0.04%	0.03%	0.06%	0.03%	1.11%	0.05%	0.31%
Unintentional firearm injuries	0.41%	0.62%	1.20%	0.71%	0.07%	0.10%	1.15%
Drowning	0.45%	0.27%	0.32%	0.18%	0.29%	0.28%	0.26%
Non-venomous animal contact	0.16%	0.20%	0.19%	0.12%	0.19%	0.19%	0.95%
Fire, heat, and hot substances	0.37%	0.21%	0.10%	0.34%	0.30%	0.07%	0.35%
Foreign body in other body part	0.34%	0.15%	0.20%	0.21%	0.06%	0.08%	0.13%
<b>50 to 59</b>							
Falls	41.33%	56.77%	37.23%	27.80%	49.08%	38.74%	33.98%
Pedestrian road injuries	9.42%	10.37%	21.78%	21.78%	13.58%	24.48%	21.75%
Other unintentional injuries	18.89%	6.19%	18.13%	13.22%	20.59%	19.31%	14.28%
Motor vehicle road injuries	5.99%	10.75%	8.95%	23.37%	4.36%	4.44%	12.90%
Other exposure to mechanical forces	2.35%	2.55%	1.86%	4.52%	1.57%	3.41%	4.31%
Cyclist road injuries	1.27%	2.27%	2.76%	1.21%	2.43%	3.75%	2.08%
Other transport injuries	1.64%	2.24%	1.61%	2.49%	2.76%	1.30%	1.55%
Environmental heat and cold exposure	7.77%	1.23%	0.46%	0.46%	1.48%	0.26%	1.02%
Pulmonary aspiration and foreign body in airway	4.04%	3.52%	2.33%	1.04%	0.31%	0.57%	1.15%
Motorcyclist road injuries	0.91%						
Other road injuries	0.46%	0.56%	1.90%	0.54%	0.72%	0.77%	1.22%
Poisoning by carbon monoxide	3.25%	0.63%	0.17%	0.77%	0.06%	0.77%	0.49%
Adverse effects of medical treatment	0.58%	1.18%	0.88%	1.06%	1.06%	0.29%	1.01%
Poisoning by other means	0.36%	0.45%	0.33%	0.32%	0.17%	1.03%	1.16%
Venomous animal contact	0.04%	0.04%	0.11%	0.04%	1.05%	0.10%	0.70%
Non-venomous animal contact	0.27%	0.28%	0.35%	0.18%	0.27%	0.30%	1.13%
Drowning	0.33%	0.22%	0.24%	0.11%	0.22%	0.23%	0.18%

Unintentional firearm injuries	0.34%	0.35%	0.55%	0.57%	0.06%	0.07%	0.58%
Fire, heat, and hot substances	0.51%	0.27%	0.14%	0.31%	0.16%	0.08%	0.42%
Foreign body in other body part	0.25%	0.11%	0.22%	0.19%	0.06%	0.09%	0.07%
<b>60 to 69</b>							
Falls	51.05%	67.52%	50.86%	37.85%	69.88%	47.22%	45.75%
Pedestrian road injuries	9.05%	8.19%	20.73%	23.17%	10.13%	25.70%	19.62%
Other unintentional injuries	15.77%	3.57%	10.81%	8.49%	9.22%	11.68%	11.82%
Motor vehicle road injuries	4.15%	6.98%	6.00%	18.86%	2.19%	3.04%	9.93%
Cyclist road injuries	1.40%	2.03%	2.25%	0.95%	1.62%	4.13%	1.94%
Other exposure to mechanical forces	1.68%	1.84%	1.35%	3.32%	1.05%	2.31%	2.10%
Pulmonary aspiration and foreign body in airway	3.73%	3.75%	2.37%	1.11%	0.29%	0.73%	1.03%
Other transport injuries	1.31%	1.47%	1.03%	2.18%	1.29%	0.98%	0.88%
Environmental heat and cold exposure	6.11%	1.07%	0.34%	0.31%	1.14%	0.32%	0.91%
Adverse effects of medical treatment	0.85%	1.61%	1.27%	1.39%	1.49%	0.36%	1.30%
Poisoning by carbon monoxide	2.75%	0.37%	0.14%	0.64%	0.05%	1.02%	0.38%
Poisoning by other means	0.30%	0.26%	0.29%	0.27%	0.11%	1.14%	1.06%
Other road injuries	0.35%	0.32%	1.28%	0.35%	0.28%	0.47%	0.52%
Venomous animal contact	0.04%	0.03%	0.11%	0.04%	0.78%	0.09%	0.75%
Non-venomous animal contact	0.24%	0.20%	0.32%	0.19%	0.14%	0.30%	0.76%
Drowning	0.26%	0.22%	0.18%	0.09%	0.14%	0.26%	0.17%
Fire, heat, and hot substances	0.50%	0.26%	0.15%	0.28%	0.12%	0.10%	0.47%
Unintentional firearm injuries	0.26%	0.22%	0.34%	0.37%	0.04%	0.05%	0.58%
Foreign body in other body part	0.21%	0.09%	0.18%	0.12%	0.03%	0.10%	0.04%
<b>70 to 79</b>							
Falls	65.49%	79.59%	66.07%	55.00%	85.46%	67.45%	61.41%
Pedestrian road injuries	10.07%	6.29%	16.79%	18.85%	5.59%	18.27%	14.52%
Other unintentional injuries	8.66%	1.40%	5.81%	4.73%	2.92%	4.85%	7.26%
Motor vehicle road injuries	2.89%	3.81%	3.33%	12.45%	1.04%	1.97%	7.49%
Pulmonary aspiration and foreign body in airway	2.03%	3.43%	2.32%	0.97%	0.37%	1.02%	1.14%
Other exposure to mechanical forces	1.21%	1.02%	0.92%	2.48%	0.62%	1.56%	1.50%
Adverse effects of medical treatment	1.22%	1.58%	1.45%	1.55%	1.12%	0.44%	1.11%
Environmental heat and cold exposure	3.22%	0.85%	0.30%	0.34%	0.99%	0.42%	1.11%
Other transport injuries	1.22%	0.72%	0.61%	1.46%	0.63%	0.67%	0.47%
Poisoning by carbon monoxide	2.01%	0.19%	0.13%	0.56%	0.04%	1.06%	0.29%
Poisoning by other means	0.23%	0.17%	0.22%	0.23%	0.04%	0.98%	0.72%
Other road injuries	0.36%	0.17%	0.88%	0.36%	0.29%	0.37%	0.48%
Venomous animal contact	0.03%	0.02%	0.11%	0.04%	0.51%	0.10%	0.59%
Non-venomous animal contact	0.26%	0.13%	0.32%	0.22%	0.14%	0.24%	0.57%
Fire, heat, and hot substances	0.50%	0.22%	0.17%	0.29%	0.09%	0.14%	0.51%
Drowning	0.16%	0.19%	0.11%	0.06%	0.09%	0.27%	0.15%
Unintentional firearm injuries	0.23%	0.14%	0.25%	0.28%	0.04%	0.06%	0.62%
Foreign body in other body part	0.22%	0.09%	0.21%	0.13%	0.03%	0.15%	0.05%
<b>80 to 89</b>							
Falls	81.33%	87.49%	79.74%	73.13%	88.84%	84.12%	75.90%
Pedestrian road injuries	5.47%	3.34%	9.11%	11.50%	3.54%	7.88%	8.19%
Other unintentional injuries	4.16%	0.63%	3.66%	2.94%	3.01%	2.23%	5.00%
Pulmonary aspiration and foreign body in airway	1.05%	3.33%	2.13%	0.79%	0.50%	0.93%	1.04%
Motor vehicle road injuries	1.34%	1.68%	1.44%	6.08%	0.59%	0.80%	3.93%
Adverse effects of medical treatment	1.08%	1.15%	1.23%	1.37%	0.96%	0.31%	1.04%
Other exposure to mechanical forces	0.90%	0.65%	0.54%	1.59%	0.41%	0.88%	1.39%
Environmental heat and cold exposure	1.46%	0.72%	0.25%	0.24%	0.76%	0.50%	0.60%
Other transport injuries	0.60%	0.19%	0.28%	0.65%	0.46%	0.30%	0.22%
Poisoning by carbon monoxide	1.29%	0.09%	0.08%	0.36%	0.05%	0.63%	0.14%
Poisoning by other means	0.16%	0.11%	0.14%	0.19%	0.04%	0.47%	0.42%
Other road injuries	0.15%	0.08%	0.42%	0.26%	0.23%	0.16%	0.36%
Fire, heat, and hot substances	0.43%	0.20%	0.17%	0.28%	0.09%	0.15%	0.41%
Non-venomous animal contact	0.16%	0.07%	0.21%	0.20%	0.09%	0.13%	0.41%
Venomous animal contact	0.02%	0.01%	0.09%	0.04%	0.28%	0.05%	0.30%
Unintentional firearm injuries	0.17%	0.10%	0.23%	0.23%	0.05%	0.08%	0.51%
Drowning	0.07%	0.10%	0.05%	0.03%	0.07%	0.18%	0.09%
Foreign body in other body part	0.15%	0.07%	0.22%	0.11%	0.04%	0.17%	0.04%
<b>90 plus</b>							
Falls	89.50%	90.65%	85.53%	82.04%	90.96%	90.85%	81.42%
Pedestrian road injuries	2.12%	1.60%	4.51%	5.86%	1.95%	3.40%	4.38%
Pulmonary aspiration and foreign body in airway	0.80%	3.50%	2.23%	0.86%	0.65%	0.88%	1.24%
Other unintentional injuries	2.62%	0.45%	3.19%	3.06%	2.90%	1.68%	5.05%
Motor vehicle road injuries	0.74%	0.92%	0.91%	3.43%	0.65%	0.57%	2.33%

Adverse effects of medical treatment	0.91%	0.94%	1.10%	1.19%	1.00%	0.24%	1.13%
Other exposure to mechanical forces	0.77%	0.63%	0.53%	1.28%	0.35%	0.59%	1.42%
Environmental heat and cold exposure	0.83%	0.63%	0.32%	0.28%	0.54%	0.48%	0.68%
Fire, heat, and hot substances	0.29%	0.20%	0.19%	0.24%	0.06%	0.12%	0.32%
Other transport injuries	0.24%	0.07%	0.20%	0.46%	0.33%	0.19%	0.15%
Unintentional firearm injuries	0.13%	0.09%	0.29%	0.22%	0.05%	0.11%	0.73%
Poisoning by carbon monoxide	0.64%	0.04%	0.09%	0.25%	0.04%	0.25%	0.09%
Foreign body in other body part	0.12%	0.06%	0.27%	0.12%	0.04%	0.19%	0.05%
Poisoning by other means	0.10%	0.07%	0.13%	0.15%	0.03%	0.17%	0.22%
Non-venomous animal contact	0.08%	0.05%	0.20%	0.33%	0.07%	0.08%	0.36%
Other road injuries	0.05%	0.05%	0.18%	0.14%	0.17%	0.07%	0.21%
Drowning	0.04%	0.04%	0.04%	0.02%	0.04%	0.09%	0.05%
Venomous animal contact	0.01%	0.01%	0.10%	0.05%	0.17%	0.03%	0.16%

*Proportions in the above table are unique by super region and age group. For each individual percentage in the table, the denominator used in its calculation was the total deaths redistributed across all causes within its respective super region and age group. Thus, column percentages within each age group will add to, or very close to, 100%. Only the top 20 redistribution targets are listed, so it is possible that some columns may not quite total 100%.*

# Appendix Figure 14

Redistribution Proportions for External Causes UDI, Type Unspecified (Y34), Year 2015, Top 20 Underlying Causes							
Age Group and Cause	Central Europe, Eastern Europe, and Central Asia	High-income	Latin America and Caribbean	North Africa and Middle East	South Asia	Southeast Asia, East Asia, and Oceania	Sub-Saharan Africa
<b>0 to 14</b>							
Drowning	23.03%	10.98%	13.07%	13.36%	26.48%	34.70%	20.43%
Fire, heat, and hot substances	17.94%	10.61%	7.00%	10.51%	6.90%	5.89%	14.97%
Venomous animal contact	0.42%	0.37%	1.44%	2.36%	20.51%	2.78%	4.63%
Falls	8.65%	3.73%	3.69%	13.67%	14.29%	10.95%	5.44%
Pedestrian road injuries	5.83%	6.20%	10.22%	11.36%	7.35%	10.63%	10.35%
Physical violence by other means	13.57%	31.59%	26.03%	8.88%	8.08%	6.97%	9.01%
Pulmonary aspiration and foreign body in airway	12.01%	16.56%	16.57%	7.49%	3.01%	10.50%	7.98%
Motor vehicle road injuries	3.83%	5.51%	3.83%	10.96%	1.53%	2.60%	5.71%
Other unintentional injuries	4.65%	2.31%	3.48%	8.45%	2.59%	3.10%	5.04%
Other exposure to mechanical forces	1.18%	1.13%	1.05%	3.10%	1.46%	2.76%	3.35%
Poisoning by other means	1.14%	1.02%	1.21%	1.32%	1.56%	1.18%	3.22%
Adverse effects of medical treatment	0.74%	0.91%	1.08%	1.10%	0.91%	0.95%	1.77%
Motorcyclist road injuries	0.54%	0.88%	1.44%	2.40%	0.96%	1.90%	1.16%
Environmental heat and cold exposure	0.81%	0.46%	0.35%	0.44%	1.25%	0.28%	1.05%
Other transport injuries	0.55%	1.07%	0.68%	0.72%	0.82%	0.74%	0.98%
Cyclist road injuries	0.55%	1.29%	0.96%	0.46%	0.80%	0.99%	0.73%
Non-venomous animal contact	0.29%	0.29%	0.25%	0.32%	0.41%	0.40%	1.08%
Physical violence by firearm	0.14%	2.48%	4.65%	0.83%	0.15%	0.39%	0.78%
Poisoning by carbon monoxide	2.44%	0.84%	0.26%	1.04%	0.20%	0.81%	0.38%
Physical violence by sharp object	0.43%	0.60%	0.98%	0.24%	0.13%	0.49%	0.53%
<b>15-49 years</b>							
Self-harm by other specified means	26.03%	34.58%	6.87%	11.42%	25.29%	15.62%	13.92%
Physical violence by other means	24.06%	7.56%	32.82%	17.98%	11.07%	7.56%	23.23%
Pedestrian road injuries	3.86%	3.90%	4.95%	9.59%	7.14%	13.61%	9.99%
Falls	6.78%	5.31%	2.74%	6.21%	7.84%	11.60%	3.90%
Motor vehicle road injuries	5.72%	9.12%	4.42%	15.16%	3.96%	7.21%	10.30%
Motorcyclist road injuries	1.38%	4.36%	5.35%	5.38%	8.11%	8.76%	2.35%
Physical violence by firearm	0.98%	8.64%	24.80%	3.95%	1.35%	2.98%	5.56%
Drowning	6.03%	3.17%	3.27%	3.85%	5.31%	7.75%	3.96%
Fire, heat, and hot substances	6.11%	3.17%	1.23%	7.34%	5.69%	2.70%	5.11%
Venomous animal contact	0.27%	0.19%	0.29%	0.33%	9.29%	1.16%	1.89%
Other unintentional injuries	3.22%	1.53%	2.16%	6.49%	5.10%	6.55%	2.73%
Physical violence by sharp object	3.14%	1.88%	4.42%	1.42%	1.06%	2.37%	4.26%
Other exposure to mechanical forces	0.96%	0.90%	0.53%	3.44%	1.10%	3.01%	1.97%
Other transport injuries	0.89%	1.14%	0.60%	1.18%	1.84%	1.48%	1.61%
Self-harm by firearm	0.90%	8.77%	0.88%	0.80%	1.60%	0.40%	1.44%
Cyclist road injuries	0.38%	0.72%	0.66%	0.40%	1.61%	1.76%	1.14%
Environmental heat and cold exposure	3.49%	0.50%	0.16%	0.36%	0.85%	0.30%	1.12%
Pulmonary aspiration and foreign body in airway	2.22%	1.95%	1.03%	0.89%	0.14%	0.83%	1.10%
Adverse effects of medical treatment	0.25%	0.38%	0.22%	0.73%	0.64%	0.55%	0.89%
Poisoning by other means	0.27%	0.39%	0.26%	0.50%	0.32%	1.41%	0.94%
<b>50 to 59</b>							
Falls	10.59%	14.50%	10.18%	11.46%	20.04%	19.97%	10.65%
Self-harm by other specified means	21.32%	33.95%	8.80%	10.82%	15.83%	15.08%	17.74%
Pedestrian road injuries	3.89%	4.33%	9.98%	14.53%	9.55%	17.22%	11.90%
Physical violence by other means	21.98%	6.44%	23.86%	9.00%	6.08%	4.80%	11.03%
Venomous animal contact	0.32%	0.35%	0.83%	0.49%	10.93%	2.00%	5.12%
Motor vehicle road injuries	3.21%	5.63%	5.36%	19.59%	4.03%	5.27%	9.24%
Fire, heat, and hot substances	9.26%	5.05%	2.63%	8.20%	4.06%	2.72%	7.44%
Drowning	4.96%	3.01%	4.02%	2.51%	5.16%	5.93%	3.31%
Motorcyclist road injuries	0.50%	2.40%	4.59%	2.98%	5.70%	5.64%	1.72%
Other unintentional injuries	2.79%	1.06%	2.86%	3.90%	4.69%	5.03%	2.40%
Physical violence by firearm	0.41%	2.45%	12.47%	1.76%	0.96%	1.61%	3.05%
Other exposure to mechanical forces	1.15%	1.26%	1.07%	3.83%	1.42%	3.33%	3.17%

Environmental heat and cold exposure	7.09%	1.05%	0.52%	0.78%	2.51%	0.41%	1.16%
Cyclist road injuries	0.55%	1.01%	1.40%	0.76%	2.05%	2.72%	1.33%
Other transport injuries	0.71%	1.02%	0.87%	1.69%	2.31%	1.33%	1.07%
Physical violence by sharp object	2.11%	0.92%	3.57%	0.61%	0.83%	1.16%	1.90%
Self-harm by firearm	0.97%	9.76%	1.07%	0.89%	0.85%	0.28%	1.60%
Pulmonary aspiration and foreign body in airway	3.71%	3.23%	2.39%	1.53%	0.46%	1.07%	1.29%
Adverse effects of medical treatment	0.39%	0.84%	0.70%	1.25%	1.35%	0.58%	1.02%
Poisoning by other means	0.34%	0.39%	0.36%	0.50%	0.26%	1.55%	1.38%
<b>60 to 69</b>							
Falls	15.40%	24.36%	19.04%	18.02%	37.87%	27.04%	16.41%
Self-harm by other specified means	18.85%	25.01%	7.99%	9.42%	9.46%	16.59%	16.18%
Pedestrian road injuries	4.30%	4.73%	12.79%	17.09%	9.27%	17.25%	12.14%
Venomous animal contact	0.33%	0.35%	1.21%	0.57%	10.72%	1.86%	6.24%
Physical violence by other means	19.93%	5.30%	18.85%	5.97%	3.88%	3.92%	8.48%
Fire, heat, and hot substances	10.73%	6.67%	3.80%	8.35%	3.87%	3.42%	9.65%
Drowning	4.42%	3.97%	4.18%	2.22%	4.34%	6.27%	3.45%
Motor vehicle road injuries	2.57%	5.09%	4.89%	17.91%	2.61%	3.42%	8.15%
Other unintentional injuries	2.85%	0.86%	2.42%	2.84%	2.87%	3.29%	2.32%
Motorcyclist road injuries	0.29%	1.49%	2.05%	2.57%	2.85%	2.91%	1.49%
Environmental heat and cold exposure	6.59%	1.22%	0.53%	0.61%	2.53%	0.47%	1.22%
Adverse effects of medical treatment	0.63%	1.59%	1.34%	1.89%	2.51%	0.71%	1.44%
Cyclist road injuries	0.69%	1.25%	1.53%	0.70%	1.76%	2.81%	1.41%
Other exposure to mechanical forces	0.96%	1.24%	1.05%	3.26%	1.25%	2.39%	1.62%
Pulmonary aspiration and foreign body in airway	4.08%	4.63%	3.29%	1.88%	0.56%	1.28%	1.33%
Other transport injuries	0.67%	0.93%	0.75%	1.67%	1.39%	0.97%	0.66%
Physical violence by firearm	0.28%	1.36%	7.89%	1.03%	0.45%	0.68%	1.43%
Self-harm by firearm	0.91%	7.83%	1.07%	0.84%	0.47%	0.18%	1.50%
Physical violence by sharp object	1.46%	0.63%	2.66%	0.39%	0.51%	0.67%	1.45%
Poisoning by other means	0.32%	0.32%	0.41%	0.43%	0.21%	1.64%	1.44%
<b>70 to 79</b>							
Falls	23.57%	41.13%	33.59%	30.90%	58.29%	41.23%	27.10%
Self-harm by other specified means	19.73%	15.96%	5.94%	6.74%	5.63%	14.93%	14.30%
Pedestrian road injuries	5.55%	4.83%	13.47%	15.70%	6.20%	13.63%	10.58%
Venomous animal contact	0.26%	0.24%	1.52%	0.67%	8.48%	2.16%	5.75%
Fire, heat, and hot substances	12.26%	7.48%	5.56%	9.73%	3.61%	4.35%	11.99%
Physical violence by other means	16.40%	4.19%	13.55%	4.47%	2.65%	3.10%	4.78%
Drowning	3.16%	4.33%	3.10%	1.72%	3.31%	6.22%	3.52%
Motor vehicle road injuries	2.08%	3.68%	3.54%	13.77%	1.47%	2.45%	7.13%
Environmental heat and cold exposure	4.05%	1.27%	0.59%	0.88%	2.67%	0.58%	1.84%
Adverse effects of medical treatment	1.02%	2.06%	1.97%	2.59%	2.23%	0.81%	1.43%
Pulmonary aspiration and foreign body in airway	2.58%	5.72%	4.14%	1.95%	0.85%	1.99%	1.73%
Other unintentional injuries	2.09%	0.51%	1.92%	2.07%	1.24%	1.50%	1.85%
Other exposure to mechanical forces	0.80%	0.92%	0.93%	3.07%	0.89%	1.97%	1.35%
Other transport injuries	0.73%	0.62%	0.59%	1.24%	0.82%	0.72%	0.41%
Self-harm by firearm	0.81%	4.89%	0.92%	0.80%	0.24%	0.14%	1.29%
Physical violence by firearm	0.20%	0.58%	4.40%	0.61%	0.37%	0.30%	0.68%
Physical violence by sharp object	1.03%	0.39%	1.83%	0.35%	0.26%	0.34%	1.12%
Poisoning by other means	0.30%	0.28%	0.41%	0.45%	0.10%	1.34%	1.13%
Poisoning by carbon monoxide	2.55%	0.35%	0.21%	0.92%	0.10%	1.24%	0.47%
Other road injuries	0.19%	0.12%	0.61%	0.26%	0.27%	0.31%	0.28%
<b>80 to 89</b>							
Falls	41.74%	61.46%	55.63%	49.47%	69.20%	61.19%	45.45%
Self-harm by other specified means	16.32%	7.19%	3.37%	5.77%	4.04%	9.68%	10.18%
Fire, heat, and hot substances	14.41%	8.04%	7.08%	10.76%	3.57%	5.15%	11.79%
Pedestrian road injuries	4.29%	3.28%	9.52%	10.82%	4.39%	7.20%	7.64%
Venomous animal contact	0.24%	0.14%	1.45%	0.74%	5.00%	1.33%	3.62%
Drowning	1.99%	2.72%	1.66%	1.10%	2.87%	4.89%	2.60%
Pulmonary aspiration and foreign body in airway	1.82%	6.91%	4.69%	1.78%	1.23%	2.06%	1.99%
Motor vehicle road injuries	1.36%	1.96%	1.96%	7.75%	0.91%	1.09%	4.72%
Adverse effects of medical treatment	1.25%	1.80%	2.12%	2.54%	2.09%	0.68%	1.65%

Environmental heat and cold exposure	2.52%	1.33%	0.59%	0.71%	2.22%	0.78%	1.20%
Other unintentional injuries	1.67%	0.32%	1.78%	1.57%	1.51%	1.00%	1.82%
Physical violence by other means	6.63%	0.71%	5.22%	0.84%	0.64%	0.45%	1.67%
Other exposure to mechanical forces	0.81%	0.71%	0.69%	2.17%	0.62%	1.23%	1.56%
Self-harm by firearm	0.55%	2.20%	0.67%	0.79%	0.20%	0.11%	0.96%
Other transport injuries	0.52%	0.21%	0.34%	0.64%	0.66%	0.40%	0.24%
Poisoning by carbon monoxide	2.30%	0.20%	0.17%	0.68%	0.12%	0.94%	0.28%
Poisoning by other means	0.29%	0.24%	0.33%	0.41%	0.09%	0.87%	0.82%
Other road injuries	0.12%	0.07%	0.40%	0.23%	0.25%	0.19%	0.28%
Unintentional firearm injuries	0.18%	0.14%	0.31%	0.37%	0.08%	0.09%	0.72%
Non-venomous animal contact	0.13%	0.07%	0.23%	0.25%	0.12%	0.21%	0.42%
<b>90 plus</b>							
Falls	70.11%	75.05%	69.92%	63.94%	79.97%	79.70%	63.74%
Fire, heat, and hot substances	13.54%	8.55%	8.02%	10.49%	2.71%	4.71%	10.38%
Pulmonary aspiration and foreign body in airway	1.99%	7.81%	5.13%	2.17%	1.64%	2.41%	2.82%
Pedestrian road injuries	2.41%	1.80%	5.13%	6.36%	2.63%	3.36%	4.78%
Drowning	1.40%	1.08%	1.42%	0.86%	1.65%	2.74%	1.84%
Venomous animal contact	0.29%	0.11%	1.62%	1.05%	3.10%	0.85%	2.36%
Adverse effects of medical treatment	1.51%	1.51%	1.91%	2.39%	2.20%	0.58%	2.03%
Other unintentional injuries	1.76%	0.28%	1.94%	2.08%	1.68%	1.11%	2.53%
Environmental heat and cold exposure	2.04%	1.27%	0.71%	0.88%	1.65%	0.85%	1.66%
Motor vehicle road injuries	1.07%	1.11%	1.29%	4.94%	1.05%	0.75%	3.06%
Other exposure to mechanical forces	0.96%	0.72%	0.69%	1.96%	0.55%	0.99%	1.89%
Other transport injuries	0.30%	0.08%	0.25%	0.52%	0.49%	0.28%	0.18%
Unintentional firearm injuries	0.21%	0.13%	0.39%	0.39%	0.09%	0.13%	1.25%
Poisoning by carbon monoxide	1.64%	0.10%	0.18%	0.55%	0.11%	0.44%	0.23%
Poisoning by other means	0.26%	0.17%	0.30%	0.36%	0.06%	0.42%	0.50%
Foreign body in other body part	0.32%	0.12%	0.54%	0.28%	0.11%	0.41%	0.13%
Non-venomous animal contact	0.11%	0.06%	0.22%	0.46%	0.09%	0.16%	0.42%
Other road injuries	0.07%	0.05%	0.19%	0.16%	0.20%	0.10%	0.20%
Police conflict and executions	0.03%	0.00%	0.13%	0.16%	0.01%	0.02%	0.01%

*Proportions in the above table are unique by super region and age group. For each individual percentage in the table, the denominator used in its calculation was the total deaths redistributed across all causes within its respective super region and age group. Thus, column percentages within each age group will add to, or very close to, 100%. Only the top 20 redistribution targets are listed, so it is possible that some columns may not quite total 100%.*



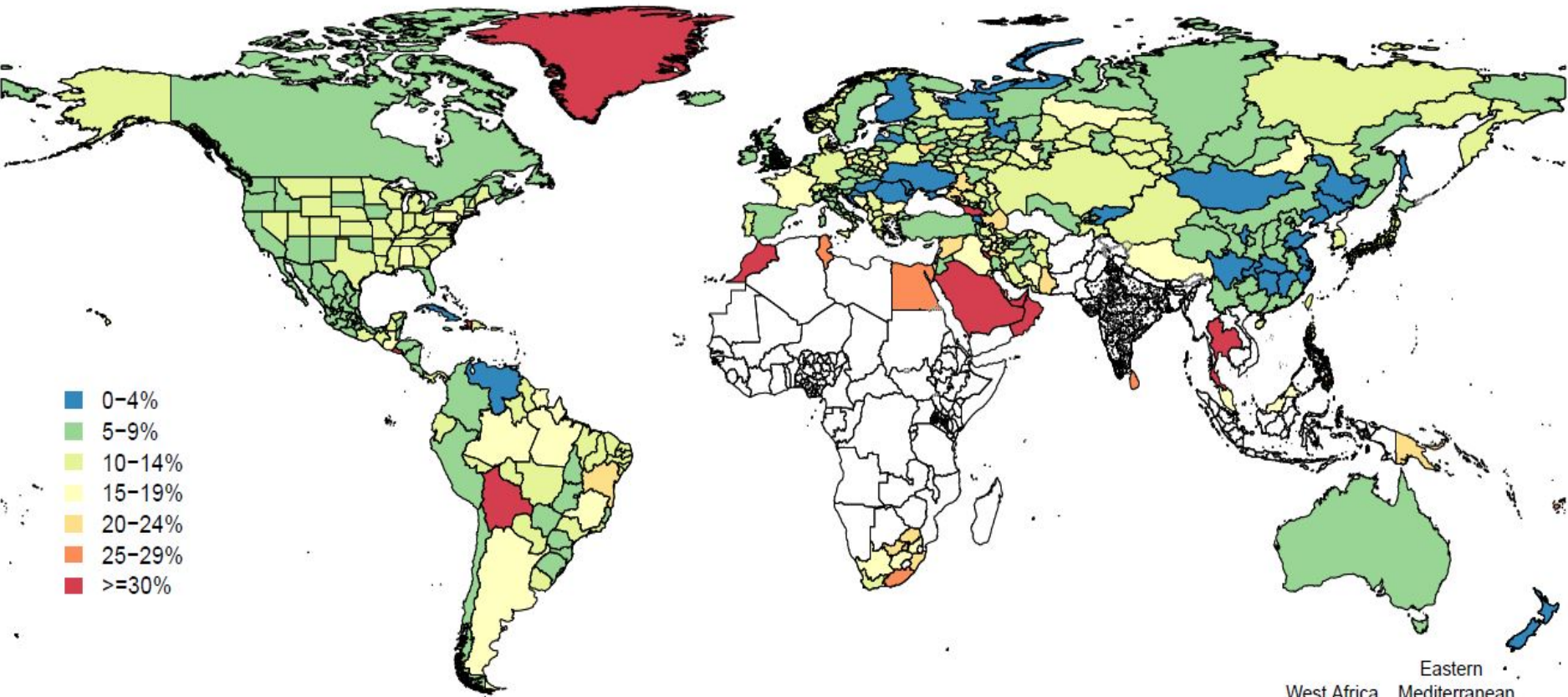
# Appendix Figure 15

Accidental Poisoning Redistribution Proportions, Year Group 2003 - 2017, By Drug Use Disorder and Age Group					
	Super Region				
Cause and Age Group	Latin America and Caribbean	High-income	Southeast Asia, East Asia, and Oceania	Central Europe, Eastern Europe, and Central Asia	North Africa and Middle East
<b>Alcohol use disorders</b>					
15 to 29	2.46%	2.30%	4.93%	0.25%	0.00%
30 to 49	11.20%	3.91%	4.60%	0.72%	0.00%
50-69 years	18.54%	5.26%	6.63%	2.22%	0.00%
70 to 79	46.67%	7.85%	0.00%	0.00%	0.00%
80 plus	55.56%	4.52%	0.00%	50.00%	0.00%
<b>Cocaine use disorders</b>					
15 to 29	63.01%	4.80%	0.00%	1.98%	2.78%
30 to 49	47.50%	10.25%	0.00%	2.59%	0.00%
50-69 years	33.71%	12.72%	0.00%	4.44%	50.00%
70 to 79	33.33%	11.11%	0.00%	0.00%	0.00%
80 plus	22.22%	2.51%	0.00%	0.00%	0.00%
<b>Other drug use disorders</b>					
15 to 29	15.82%	6.50%	29.23%	9.14%	2.78%
30 to 49	10.65%	6.22%	24.14%	7.90%	0.00%
50-69 years	11.24%	5.37%	20.48%	4.44%	0.00%
70 to 79	0.00%	6.37%	0.00%	0.00%	0.00%
80 plus	22.22%	12.55%	0.00%	0.00%	0.00%
<b>Opioid use disorders</b>					
0 to 14	0.00%	100.00%	0.00%	0.00%	0.00%
15 to 29	12.57%	82.21%	29.23%	80.00%	88.89%
30 to 49	21.96%	73.88%	56.31%	84.05%	100.00%
50-69 years	25.84%	69.94%	58.43%	88.89%	25.00%
70 to 79	20.00%	70.13%	100.00%	100.00%	0.00%
80 plus	0.00%	79.05%	50.00%	50.00%	0.00%
<b>Amphetamine use disorders</b>					
15 to 29	6.15%	4.19%	36.62%	8.64%	5.56%
30 to 49	8.70%	5.74%	14.95%	4.74%	0.00%
50-69 years	10.67%	6.71%	14.46%	0.00%	25.00%
70 to 79	0.00%	4.55%	0.00%	0.00%	0.00%
80 plus	0.00%	1.38%	50.00%	0.00%	0.00%

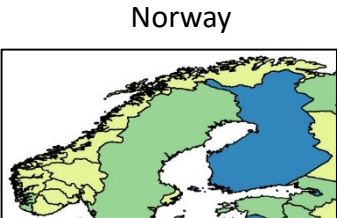
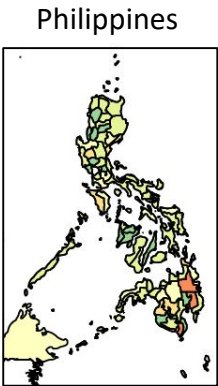
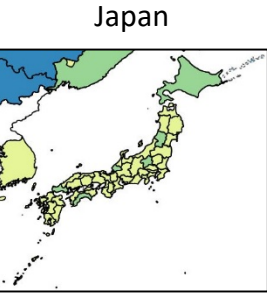
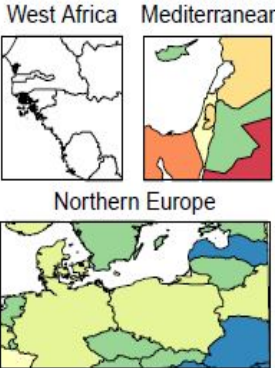
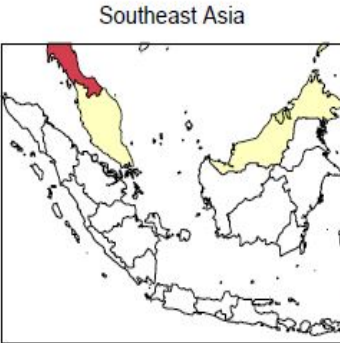
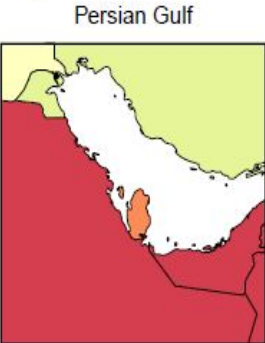
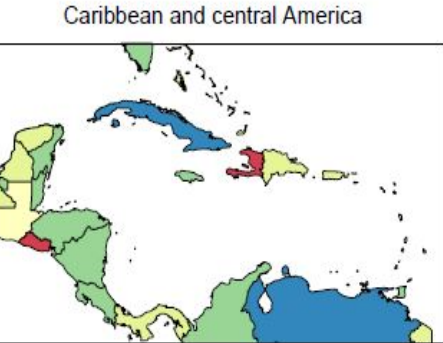
Multiple cause data is also used to adjust for other types of miscoding where there is evidence that observed mortality trends for a given cause are not reflective of additional epidemiological knowledge. Here, we show an example of proportions generated from multiple cause data that we used to adjust deaths due to drug overdoses that were misclassified as accidental poisoning.

Appendix Figure 16

Percentage of class 1 garbage in VR – 2015 or closest available year

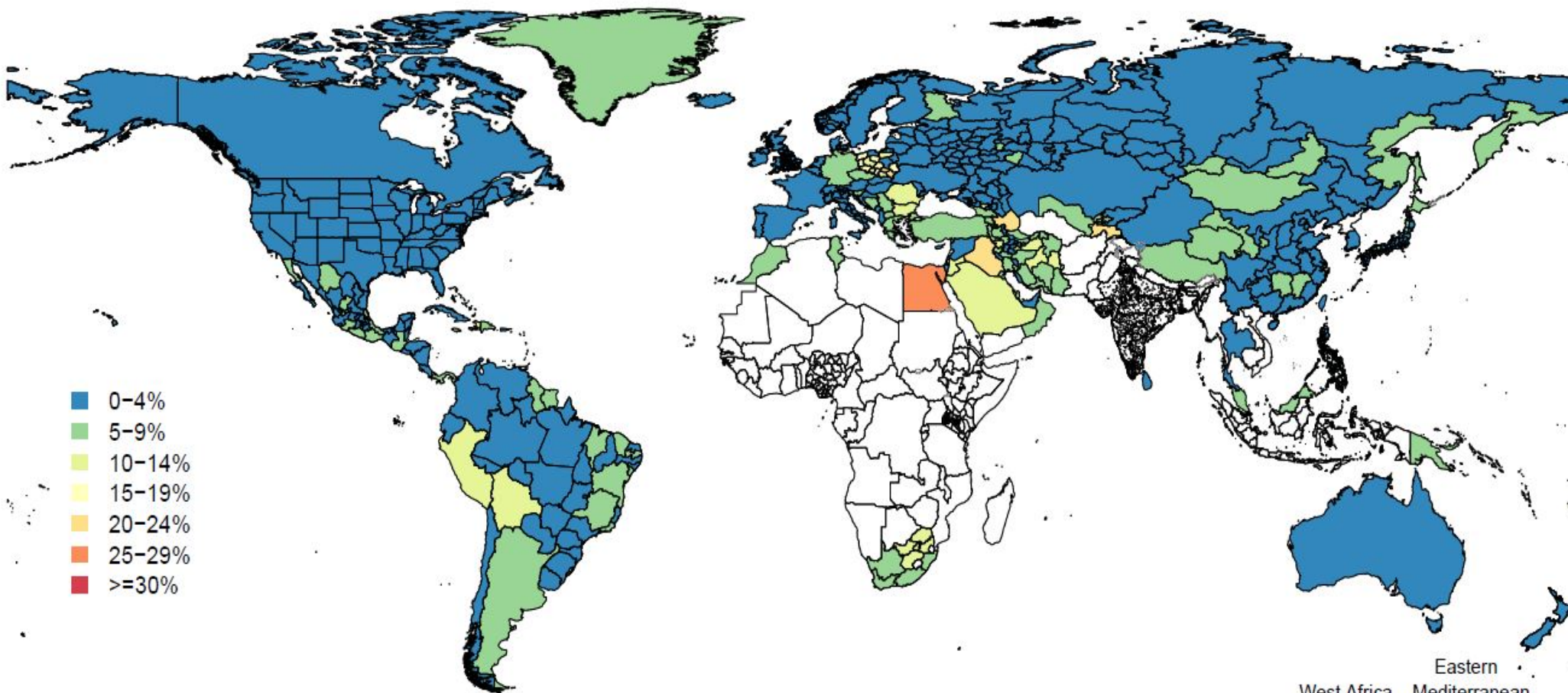
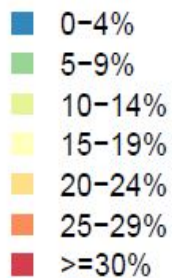


- 0-4%
- 5-9%
- 10-14%
- 15-19%
- 20-24%
- 25-29%
- ≥30%

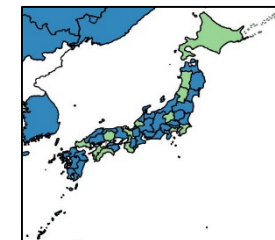




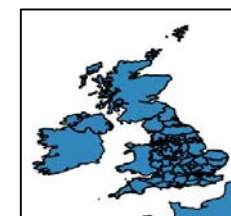
# Percentage of class 2 garbage in VR – 2015 or closest available year



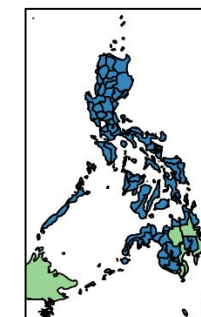
Japan



United Kingdom and Ireland



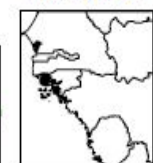
Philippines



Eastern Mediterranean



West Africa



Northern Europe



Norway



Caribbean and central America



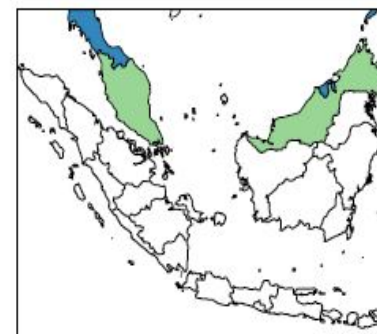
Persian Gulf



The Balkans

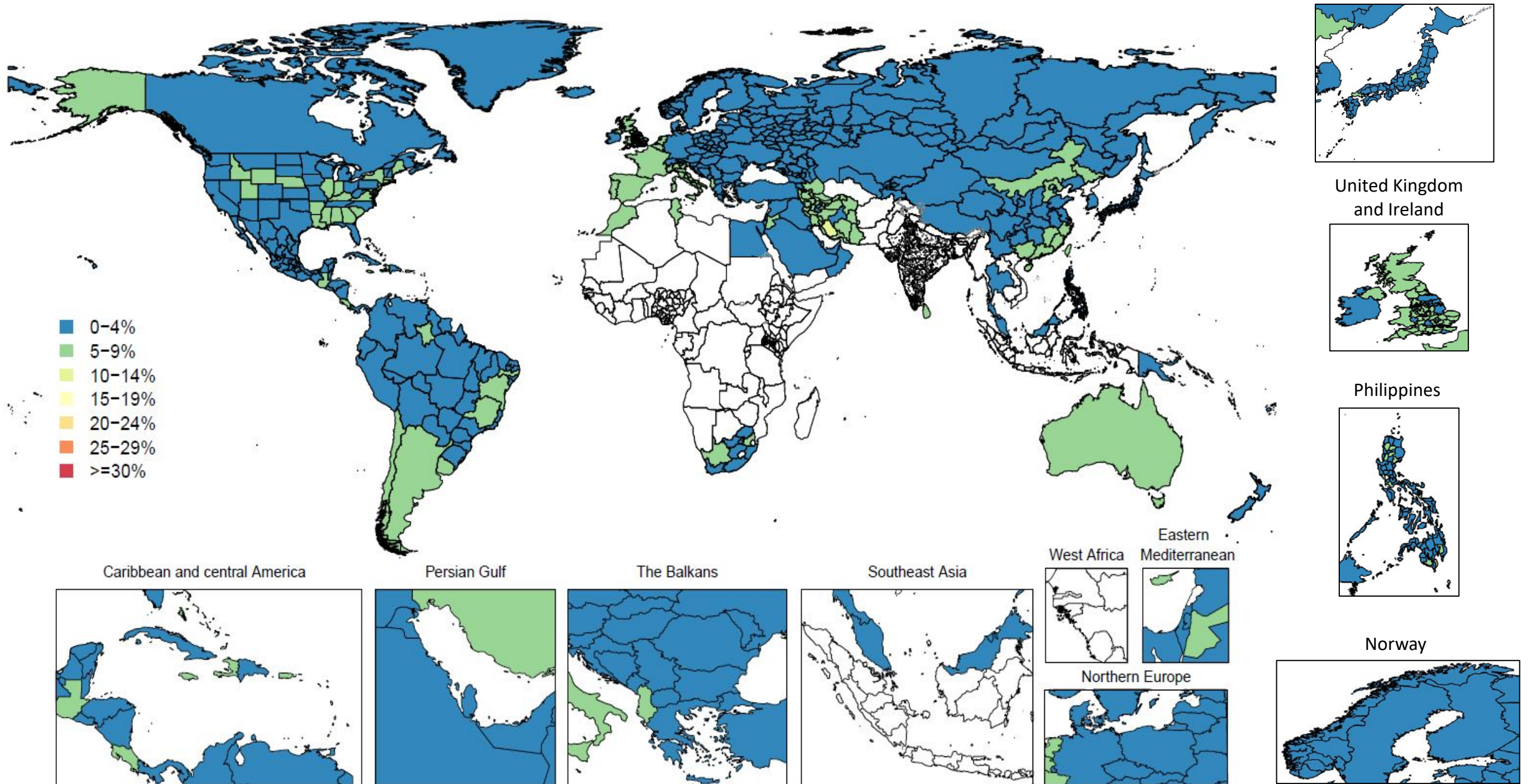


Southeast Asia



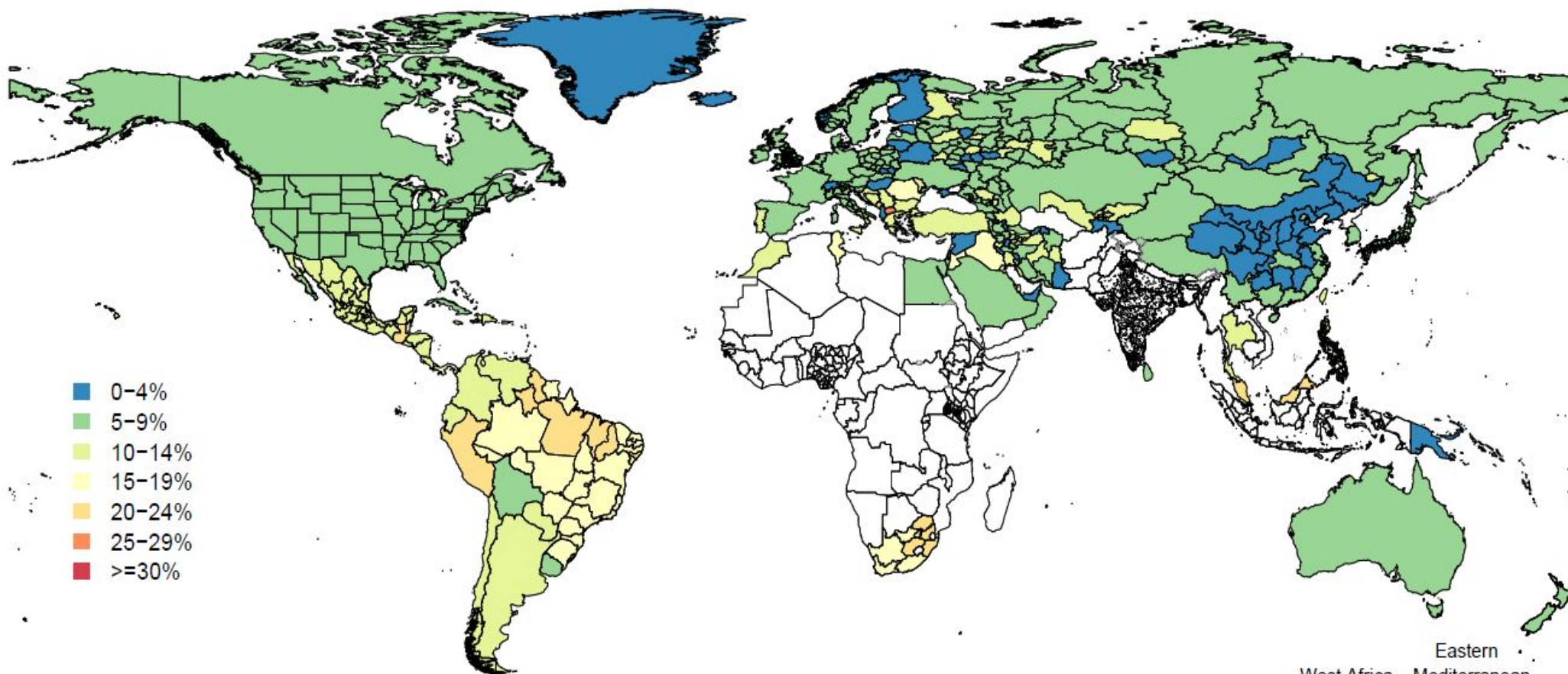
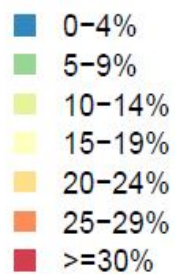


# Percentage of class 3 garbage in VR – 2015 or closest available year

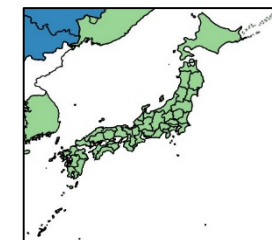




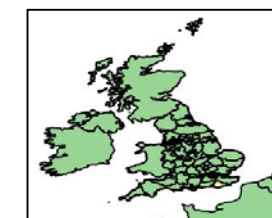
# Percentage of class 4 garbage in VR – 2015 or closest available year



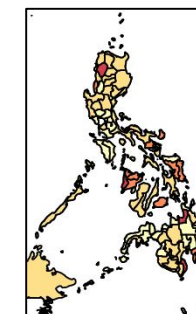
Japan



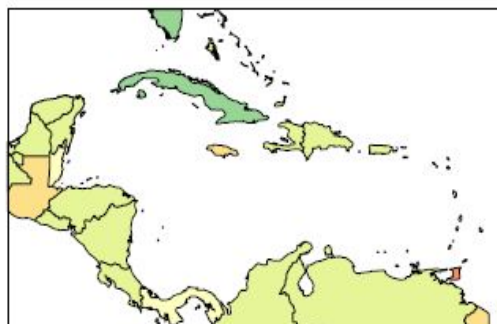
United Kingdom and Ireland



Philippines



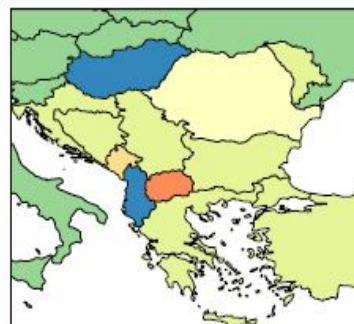
Caribbean and central America



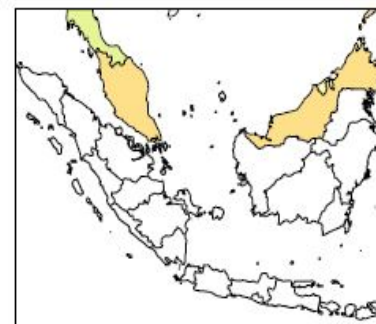
Persian Gulf



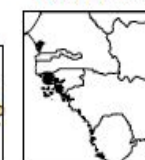
The Balkans



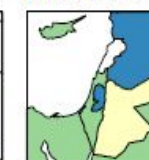
Southeast Asia



West Africa



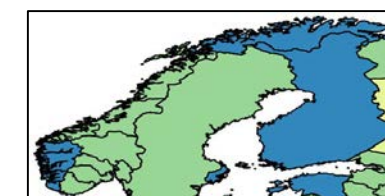
Eastern Mediterranean



Northern Europe



Norway



# Appendix Figure 17

Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
American Samoa	Sepsis (Non- maternal and neonatal sepsis)	1	10	9.41%	3.58%
	Fluid, Electrolyte, Acid Base Disorders	1	5	4.60%	1.75%
	Unspecified Site Cancer	3	4	4.32%	1.65%
	All, III Defined code for causes of death	1	3	3.07%	1.17%
	Gastrointestinal Bleeding	2	3	3.45%	1.31%
Antigua and Barbuda	Hypertension	2	26	10.50%	5.01%
	Sepsis (Non- maternal and neonatal sepsis)	1	24	9.82%	4.68%
	Exposure to unspecified factor X59	2	14	5.94%	2.83%
	Left heart failure	1	10	4.05%	1.93%
	Fluid, Electrolyte, Acid Base Disorders	1	9	3.90%	1.86%
Argentina	Heart failure unspecified right or left	2	21214	13.06%	6.42%
	All, III Defined code for causes of death	1	12822	7.89%	3.88%
	Sepsis (Non- maternal and neonatal sepsis)	1	9595	5.91%	2.90%
	Acute Respiratory Failure	1	7511	4.62%	2.27%
	Left heart failure	1	4871	3.00%	1.47%
Armenia	Atherosclerosis	2	405	8.51%	1.46%
	External Causes UDI, type unspecified	2	393	8.24%	1.41%
	All, III Defined code for causes of death	1	259	5.43%	0.93%
	right heart failure and pulmonary heart disease	2	211	4.43%	0.76%
	Senility	1	188	3.96%	0.68%
Australia	Unspecified Site Cancer	3	2596	6.94%	1.63%
	Sepsis (Non- maternal and neonatal sepsis)	1	1790	4.78%	1.13%
	Left heart failure	1	1651	4.41%	1.04%
	All, III Defined code for causes of death	1	1628	4.35%	1.02%
	Unspecified GI Cancer	3	1310	3.50%	0.82%
Austria	Heart failure unspecified right or left	2	2169	11.66%	2.61%
	Unspecified Site Cancer	3	1475	7.93%	1.78%
	Unspecified Heart Diseases	3	1185	6.37%	1.43%
	All, III Defined code for causes of death	1	1158	6.23%	1.39%
	Exposure to unspecified factor X59	2	818	4.40%	0.98%
Azerbaijan	Heart failure unspecified right or left	2	7832	25.51%	15.53%
	Shock, Cardiac Arrest, Coma	1	4729	15.40%	9.38%
	Hepatic Failure	1	2085	6.79%	4.13%
	External Causes UDI, type unspecified	2	1876	6.11%	3.72%
	Unspecified Site Cancer	3	1537	5.01%	3.05%
Bahamas	Sepsis (Non- maternal and neonatal sepsis)	1	58	8.67%	2.70%
	Hypertension	2	40	6.01%	1.87%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Bahamas	Unspecified Site Cancer	3	28	4.31%	1.34%
	Fluid, Electrolyte, Acid Base Disorders	1	25	3.84%	1.20%
	Unspecified Heart Diseases	3	23	3.51%	1.09%
Bahrain	Shock, Cardiac Arrest, Coma	1	382	32.33%	14.18%
	Hypertension	2	159	13.50%	5.92%
	All, III Defined code for causes of death	1	127	10.76%	4.72%
	Senility	1	111	9.47%	4.16%
	Undetermined intent Strangulation	2	29	2.54%	1.11%
Barbados	Sepsis (Non- maternal and neonatal sepsis)	1	96	8.50%	3.87%
	Unspecified Site Cancer	3	54	4.85%	2.21%
	Pulmonary Embolism	1	48	4.26%	1.94%
	Hypertension	2	41	3.69%	1.68%
	All, III Defined code for causes of death	1	31	2.80%	1.27%
Belgium	Heart failure unspecified right or left	2	4221	10.90%	3.82%
	All, III Defined code for causes of death	1	3395	8.77%	3.07%
	Shock, Cardiac Arrest, Coma	1	2360	6.09%	2.14%
	Senility	1	1414	3.65%	1.28%
	Left heart failure	1	1400	3.62%	1.27%
Belize	Left heart failure	1	30	5.35%	1.74%
	Hypertension	2	25	4.47%	1.45%
	Sepsis (Non- maternal and neonatal sepsis)	1	21	3.78%	1.23%
	Pneumonitis	1	16	2.86%	0.93%
	Primary or secondary Liver Cancer Unspecified	3	15	2.61%	0.85%
Bermuda	Heart failure unspecified right or left	2	9	7.30%	1.93%
	Unspecified Site Cancer	3	8	7.28%	1.93%
	Hypertension	2	7	6.26%	1.66%
	Sepsis (Non- maternal and neonatal sepsis)	1	7	6.29%	1.66%
	Pneumonitis	1	4	3.72%	0.98%
Bolivia (Plurinational State of)	All, III Defined code for causes of death	1	9005	53.21%	40.07%
	External Causes UDI, type unspecified	2	2159	12.76%	9.61%
	Sepsis (Non- maternal and neonatal sepsis)	1	593	3.50%	2.64%
	Acute Respiratory Failure	1	428	2.53%	1.91%
	Heart failure unspecified right or left	2	407	2.40%	1.81%
Bosnia and Herzegovina	All, III Defined code for causes of death	1	2245	15.51%	6.24%
	Shock, Cardiac Arrest, Coma	1	2167	14.97%	6.02%
	Heart failure unspecified right or left	2	1739	12.01%	4.83%
	Hypertension	2	1171	8.09%	3.25%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Herzegovina	Atherosclerosis	2	434	3.00%	1.21%
Brazil	All, III Defined code for causes of death	1	56582	11.86%	4.49%
	Hypertension	2	21967	4.60%	1.74%
	Sepsis (Non- maternal and neonatal sepsis)	1	19083	4.00%	1.51%
	Heart failure unspecified right or left	2	14853	3.11%	1.18%
	Left heart failure	1	14292	3.00%	1.13%
Brunei Darussalam	All, III Defined code for causes of death	1	51	8.50%	3.31%
	Sepsis (Non- maternal and neonatal sepsis)	1	51	8.57%	3.34%
	Senility	1	25	4.17%	1.63%
	Exposure to unspecified factor X59	2	16	2.81%	1.09%
	Hypertension	2	16	2.76%	1.07%
Bulgaria	Left heart failure	1	11458	23.37%	10.41%
	Heart failure unspecified right or left	2	8666	17.67%	7.87%
	Hypertension	2	2258	4.61%	2.05%
	Shock, Cardiac Arrest, Coma	1	2161	4.41%	1.96%
	Atherosclerosis	2	2126	4.34%	1.93%
Cabo Verde	All, III Defined code for causes of death	1	168	12.58%	6.09%
	External Causes UDI, type unspecified	2	121	9.08%	4.40%
	Heart failure unspecified right or left	2	115	8.59%	4.16%
	Senility	1	89	6.67%	3.23%
	Sepsis (Non- maternal and neonatal sepsis)	1	73	5.52%	2.67%
Canada	All, III Defined code for causes of death	1	3265	4.89%	1.24%
	Unspecified Site Cancer	3	3227	4.84%	1.22%
	Left heart failure	1	3016	4.52%	1.14%
	Sepsis (Non- maternal and neonatal sepsis)	1	2526	3.79%	0.96%
	Undetermined intent Poisoning by multiple or unspecified drug	1	2190	3.28%	0.83%
Chile	Hypertension	2	2084	7.37%	2.02%
	All, III Defined code for causes of death	1	1859	6.57%	1.80%
	Alcoholic hepatic failure	3	1020	3.61%	0.99%
	Unspecified Site Cancer	3	986	3.49%	0.95%
	Heart failure unspecified right or left	2	882	3.12%	0.85%
China	Primary or secondary Liver Cancer Unspecified	3	135451	15.37%	2.24%
	Hypertension	2	83852	9.52%	1.39%
	Senility	1	38607	4.38%	0.64%
	Shock, Cardiac Arrest, Coma	1	35266	4.00%	0.58%
	right heart failure and pulmonary heart disease	2	34077	3.87%	0.56%
Colombia	All, III Defined code for causes of death	1	2840	6.03%	1.29%



## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Colombia	Hypertension	2	2251	4.78%	1.03%
	Unspecified Site Cancer	3	1989	4.23%	0.91%
	Heart failure unspecified right or left	2	1333	2.83%	0.61%
	External Causes UDI, type unspecified	2	1033	2.19%	0.47%
Costa Rica	Unspecified Site Cancer	3	356	6.43%	1.70%
	All, III Defined code for causes of death	1	290	5.24%	1.38%
	Exposure to unspecified factor X59	2	279	5.04%	1.33%
	Alcoholic hepatic failure	3	139	2.52%	0.67%
Croatia	Unspecified chronic respiratory diseases	3	119	2.16%	0.57%
	Heart failure unspecified right or left	2	1298	9.97%	2.39%
	Atherosclerosis	2	461	3.55%	0.85%
	Unspecified Site Cancer	3	431	3.32%	0.80%
Cuba	Unspecified Mental/Brain Disorders	3	340	2.62%	0.63%
	Shock, Cardiac Arrest, Coma	1	297	2.28%	0.55%
	Atherosclerosis	2	1595	7.04%	1.60%
	External Causes UDI, type unspecified	2	1371	6.06%	1.38%
Cyprus	Left heart failure	1	1177	5.20%	1.18%
	All, III Defined code for causes of death	1	1138	5.03%	1.14%
	Hypertension	2	668	2.95%	0.67%
	Heart failure unspecified right or left	2	253	10.94%	4.23%
Czechia	Unspecified chronic respiratory diseases	3	233	10.11%	3.90%
	Shock, Cardiac Arrest, Coma	1	142	6.17%	2.38%
	Senility	1	101	4.40%	1.70%
	Sepsis (Non- maternal and neonatal sepsis)	1	93	4.03%	1.55%
Denmark	Heart failure unspecified right or left	2	2464	10.04%	2.22%
	Exposure to unspecified factor X59	2	1469	5.99%	1.32%
	Atherosclerosis	2	1434	5.84%	1.29%
	Sepsis (Non- maternal and neonatal sepsis)	1	1367	5.57%	1.23%
Dominica	Left heart failure	1	1314	5.35%	1.18%
	All, III Defined code for causes of death	1	3294	21.28%	6.31%
	Senility	1	822	5.31%	1.58%
	Unspecified Site Cancer	3	722	4.67%	1.38%
Dominica	Heart failure unspecified right or left	2	714	4.61%	1.37%
	Hypertension	2	459	2.97%	0.88%
	Hypertension	2	29	9.50%	4.40%
	All, III Defined code for causes of death	1	20	6.84%	3.17%
Dominica	Shock, Cardiac Arrest, Coma	1	14	4.85%	2.24%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Dominica	Left heart failure	1	13	4.29%	1.99%
	Pulmonary Embolism	1	12	4.15%	1.92%
Dominican Republic	All, III Defined code for causes of death	1	1827	19.72%	6.99%
	Heart failure unspecified right or left	2	548	5.91%	2.10%
	External Causes UDI, type unspecified	2	446	4.82%	1.71%
	Hypertension	2	422	4.56%	1.62%
	Left heart failure	1	309	3.34%	1.18%
Ecuador	All, III Defined code for causes of death	1	3102	13.91%	4.79%
	Hypertension	2	1003	4.50%	1.55%
	Heart failure unspecified right or left	2	665	2.98%	1.03%
	Senility	1	578	2.59%	0.89%
	Shock, Cardiac Arrest, Coma	1	513	2.30%	0.79%
Egypt	Heart failure unspecified right or left	2	75104	20.06%	13.09%
	Hypertension	2	42179	11.27%	7.35%
	Shock, Cardiac Arrest, Coma	1	39828	10.64%	6.94%
	All, III Defined code for causes of death	1	28811	7.70%	5.02%
	Hepatic Failure	1	27214	7.27%	4.74%
El Salvador	Shock, Cardiac Arrest, Coma	1	4253	20.90%	10.41%
	All, III Defined code for causes of death	1	3184	15.65%	7.79%
	Sepsis (Non- maternal and neonatal sepsis)	1	1660	8.16%	4.06%
	Senility	1	1115	5.48%	2.73%
	Acute kidney failure	1	731	3.59%	1.79%
Estonia	Heart failure unspecified right or left	2	380	20.51%	2.49%
	All, III Defined code for causes of death	1	203	10.97%	1.33%
	Unspecified Site Cancer	3	123	6.67%	0.81%
	Atherosclerosis	2	103	5.59%	0.68%
	Undetermined intent Poisoning by multiple or unspecified drug	1	87	4.75%	0.58%
Fiji	Hypertension	2	600	18.19%	9.27%
	Left heart failure	1	406	12.33%	6.28%
	Senility	1	350	10.61%	5.41%
	Sepsis (Non- maternal and neonatal sepsis)	1	241	7.32%	3.73%
	Undetermined intent Strangulation	2	97	2.97%	1.51%
Finland	All, III Defined code for causes of death	1	676	7.95%	1.29%
	Unspecified Site Cancer	3	387	4.56%	0.74%
	Undetermined intent Poisoning by multiple or unspecified drug	1	225	2.66%	0.43%
	Unspecified Heart Diseases	3	191	2.26%	0.37%
	Unspecified GI Cancer	3	184	2.18%	0.35%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
France	All, III Defined code for causes of death	1	32660	15.86%	5.63%
	Shock, Cardiac Arrest, Coma	1	20851	10.13%	3.60%
	Heart failure unspecified right or left	2	15742	7.65%	2.71%
	Exposure to unspecified factor X59	2	9383	4.56%	1.62%
	Unspecified Site Cancer	3	7859	3.82%	1.36%
Georgia	All, III Defined code for causes of death	1	12222	48.18%	24.88%
	Heart failure unspecified right or left	2	1860	7.33%	3.79%
	Shock, Cardiac Arrest, Coma	1	1386	5.47%	2.82%
	Left heart failure	1	704	2.78%	1.43%
	Atherosclerosis	2	578	2.28%	1.18%
Germany	Heart failure unspecified right or left	2	39985	16.88%	4.32%
	All, III Defined code for causes of death	1	21544	9.10%	2.33%
	Unspecified Site Cancer	3	10799	4.56%	1.17%
	Sepsis (Non- maternal and neonatal sepsis)	1	9238	3.90%	1.00%
	Left heart failure	1	7505	3.17%	0.81%
Greece	Heart failure unspecified right or left	2	7752	15.49%	6.38%
	Shock, Cardiac Arrest, Coma	1	6185	12.36%	5.09%
	Sepsis (Non- maternal and neonatal sepsis)	1	3591	7.18%	2.96%
	Left heart failure	1	1944	3.88%	1.60%
	Unspecified Site Cancer	3	1623	3.24%	1.34%
Greenland	All, III Defined code for causes of death	1	64	30.37%	13.28%
	Senility	1	32	15.20%	6.65%
	Heart failure unspecified right or left	2	22	10.44%	4.56%
	Sepsis (Non- maternal and neonatal sepsis)	1	13	6.58%	2.88%
	Unspecified Site Cancer	3	9	4.74%	2.07%
Grenada	Atherosclerosis	2	20	5.37%	2.37%
	All, III Defined code for causes of death	1	16	4.29%	1.89%
	Left heart failure	1	16	4.19%	1.85%
	Hypertension	2	15	3.92%	1.73%
	Fluid, Electrolyte, Acid Base Disorders	1	12	3.24%	1.43%
Guam	Sepsis (Non- maternal and neonatal sepsis)	1	34	15.40%	3.52%
	Acute kidney failure	1	7	3.44%	0.79%
	Unspecified Site Cancer	3	7	3.57%	0.82%
	Pneumonitis	1	5	2.48%	0.57%
	Gastrointestinal Bleeding	2	4	2.21%	0.51%
Guatemala	All, III Defined code for causes of death	1	4574	11.89%	5.65%
	Exposure to unspecified factor X59	2	3032	7.88%	3.75%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Guatemala	Senility	1	1438	3.74%	1.78%
	Acute kidney failure	1	1339	3.48%	1.65%
	Sepsis (Non- maternal and neonatal sepsis)	1	1209	3.14%	1.49%
Guyana	Hypertension	2	192	8.27%	3.46%
	Left heart failure	1	110	4.76%	1.99%
	External Causes UDI, type unspecified	2	108	4.68%	1.96%
	Sepsis (Non- maternal and neonatal sepsis)	1	102	4.42%	1.85%
	Heart failure unspecified right or left	2	77	3.31%	1.39%
Haiti	All, III Defined code for causes of death	1	672	44.40%	29.12%
	Shock, Cardiac Arrest, Coma	1	119	7.87%	5.16%
	Hypertension	2	96	6.34%	4.16%
	Sepsis (Non- maternal and neonatal sepsis)	1	72	4.81%	3.16%
	Unspecified Heart Diseases	3	53	3.52%	2.31%
Honduras	Sepsis (Non- maternal and neonatal sepsis)	1	89	5.62%	1.38%
	Exposure to unspecified factor X59	2	70	4.42%	1.09%
	Gastrointestinal Bleeding	2	56	3.52%	0.87%
	Left heart failure	1	41	2.63%	0.65%
	All, III Defined code for causes of death	1	38	2.40%	0.59%
Hungary	Atherosclerosis	2	2138	12.54%	1.62%
	Hypertension	2	1713	10.05%	1.30%
	Heart failure unspecified right or left	2	1208	7.09%	0.92%
	Left heart failure	1	943	5.54%	0.72%
	Primary or secondary Liver Cancer Unspecified	3	603	3.54%	0.46%
Iceland	Heart failure unspecified right or left	2	84	15.96%	3.85%
	All, III Defined code for causes of death	1	28	5.39%	1.30%
	Exposure to unspecified factor X59	2	24	4.68%	1.13%
	Acute kidney failure	1	14	2.82%	0.68%
	Unspecified Site Cancer	3	14	2.85%	0.69%
India	External Causes UDI, type unspecified	2	2815	17.98%	8.24%
	Shock, Cardiac Arrest, Coma	1	1588	10.15%	4.65%
	Sepsis (Non- maternal and neonatal sepsis)	1	1447	9.24%	4.24%
	Hypertension	2	1218	7.78%	3.57%
	All, III Defined code for causes of death	1	1190	7.60%	3.48%
Iran (Islamic Republic of)	Shock, Cardiac Arrest, Coma	1	10060	9.17%	3.12%
	All, III Defined code for causes of death	1	7043	6.42%	2.19%
	Hypertension	2	6740	6.15%	2.09%
	senility(CS-IRN)	1	5755	5.25%	1.79%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Republic of)	right heart failure and pulmonary heart disease	2	5067	4.62%	1.57%
Iraq	Heart failure unspecified right or left	2	9490	16.53%	8.62%
	All, III Defined code for causes of death	1	8305	14.47%	7.55%
	Hypertension	2	5698	9.93%	5.18%
	Acute kidney failure	1	2857	4.98%	2.60%
	External Causes UDI, type unspecified	2	2732	4.76%	2.48%
Ireland	Left heart failure	1	356	5.11%	1.18%
	Unspecified Site Cancer	3	285	4.09%	0.95%
	Pneumonitis	1	256	3.67%	0.85%
	Sepsis (Non- maternal and neonatal sepsis)	1	216	3.10%	0.72%
	Undetermined intent Poisoning by multiple or unspecified drug	1	178	2.56%	0.59%
Israel	All, III Defined code for causes of death	1	2153	13.96%	4.86%
	Sepsis (Non- maternal and neonatal sepsis)	1	2027	13.14%	4.58%
	Acute kidney failure	1	874	5.67%	1.97%
	Left heart failure	1	583	3.78%	1.32%
	Hypertension	2	487	3.16%	1.10%
Italy	Unspecified Heart Diseases	3	11568	6.15%	1.79%
	Unspecified Site Cancer	3	9277	4.93%	1.44%
	Sepsis (Non- maternal and neonatal sepsis)	1	9242	4.91%	1.43%
	Exposure to unspecified factor X59	2	7440	3.95%	1.15%
	Heart failure unspecified right or left	2	5784	3.07%	0.90%
Jamaica	Hypertension	2	410	5.65%	2.24%
	Unspecified Site Cancer	3	256	3.53%	1.40%
	Sepsis (Non- maternal and neonatal sepsis)	1	207	2.85%	1.13%
	Undetermined intent shooting by unspecified firearm	2	199	2.75%	1.09%
	Left heart failure	1	116	1.60%	0.64%
Japan	Heart failure unspecified right or left	2	58911	15.68%	4.55%
	Senility	1	56838	15.13%	4.39%
	Pneumonitis	1	21702	5.78%	1.67%
	Left heart failure	1	12417	3.30%	0.96%
	Sepsis (Non- maternal and neonatal sepsis)	1	11335	3.02%	0.87%
Jordan	Heart failure unspecified right or left	2	781	10.08%	4.07%
	Hypertension	2	721	9.31%	3.76%
	Sepsis (Non- maternal and neonatal sepsis)	1	427	5.52%	2.23%
	Unspecified Heart Diseases	3	406	5.25%	2.12%
	Acute kidney failure	1	393	5.08%	2.05%
Kazakhstan	Intermediate cause for CNS	1	4912	12.83%	3.75%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Kazakhstan	All, III Defined code for causes of death	1	3800	9.92%	2.90%
	Senility	1	3232	8.44%	2.47%
	Heart failure unspecified right or left	2	1207	3.15%	0.92%
	Atherosclerosis	2	1160	3.03%	0.89%
Kiribati	All, III Defined code for causes of death	1	100	33.05%	20.97%
	Shock, Cardiac Arrest, Coma	1	12	4.24%	2.69%
	Hepatic Failure	1	10	3.63%	2.30%
	Senility	1	10	3.50%	2.22%
	Fluid, Electrolyte, Acid Base Disorders	1	9	3.29%	2.09%
Kuwait	Sepsis (Non- maternal and neonatal sepsis)	1	345	15.42%	5.31%
	Heart failure unspecified right or left	2	303	13.51%	4.66%
	All, III Defined code for causes of death	1	69	3.11%	1.07%
	Unspecified Congenital Diseases	3	58	2.63%	0.90%
	Shock, Cardiac Arrest, Coma	1	57	2.57%	0.89%
Kyrgyzstan	All, III Defined code for causes of death	1	833	13.05%	2.39%
	Primary or secondary Liver Cancer Unspecified	3	225	3.52%	0.65%
	Exposure to unspecified factor X59	2	194	3.04%	0.56%
	Shock, Cardiac Arrest, Coma	1	176	2.77%	0.51%
	Hypertension	2	146	2.30%	0.42%
Latvia	Unspecified Site Cancer	3	237	6.66%	0.84%
	All, III Defined code for causes of death	1	173	4.87%	0.62%
	Heart failure unspecified right or left	2	132	3.70%	0.47%
	Hypertension	2	132	3.71%	0.47%
	Left heart failure	1	132	3.70%	0.47%
Lithuania	All, III Defined code for causes of death	1	483	9.74%	1.16%
	Sepsis (Non- maternal and neonatal sepsis)	1	426	8.59%	1.02%
	Unspecified Site Cancer	3	377	7.61%	0.90%
	Pulmonary Embolism	1	246	4.97%	0.59%
	Undetermined intent Poisoning by multiple or unspecified drug	1	155	3.14%	0.37%
Luxembourg	Heart failure unspecified right or left	2	184	15.16%	4.79%
	Shock, Cardiac Arrest, Coma	1	70	5.84%	1.85%
	All, III Defined code for causes of death	1	52	4.33%	1.37%
	Sepsis (Non- maternal and neonatal sepsis)	1	48	4.02%	1.27%
	Cardiac rhythm disorders	3	42	3.47%	1.10%
Malaysia	Sepsis (Non- maternal and neonatal sepsis)	1	4830	12.66%	6.24%
	All, III Defined code for causes of death	1	2162	5.67%	2.80%
	External Causes UDI, type unspecified	2	1914	5.02%	2.47%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Malaysia	Pneumonitis	1	1782	4.67%	2.30%
	Heart failure unspecified right or left	2	1311	3.44%	1.69%
Maldives	Shock, Cardiac Arrest, Coma	1	155	22.09%	13.37%
	Hypertension	2	84	12.01%	7.26%
	All, III Defined code for causes of death	1	65	9.25%	5.60%
	Sepsis (Non- maternal and neonatal sepsis)	1	43	6.17%	3.73%
	Pneumonitis	1	31	4.50%	2.72%
Malta	Left heart failure	1	86	10.19%	2.51%
	Unspecified Site Cancer	3	40	4.82%	1.19%
	Heart failure unspecified right or left	2	23	2.71%	0.67%
	Non-follicular lymphoma, unspecified	3	22	2.60%	0.64%
	Pneumonitis	1	20	2.48%	0.61%
Mauritius	Shock, Cardiac Arrest, Coma	1	246	5.30%	2.60%
	Left heart failure	1	179	3.86%	1.89%
	Unspecified chronic respiratory diseases	3	144	3.10%	1.52%
	Pneumonitis	1	124	2.67%	1.31%
	Heart failure unspecified right or left	2	100	2.15%	1.05%
Mexico	Exposure to unspecified factor X59	2	7523	4.35%	1.15%
	Hypertension	2	6708	3.88%	1.02%
	Hepatic Failure	1	6458	3.74%	0.99%
	All, III Defined code for causes of death	1	5841	3.38%	0.89%
	Gastrointestinal Bleeding	2	4656	2.69%	0.71%
Monaco	Heart failure unspecified right or left	2	30	13.62%	5.24%
	Chronic respiratory failure	1	16	7.59%	2.92%
	Atherosclerosis	2	14	6.56%	2.53%
	Sepsis (Non- maternal and neonatal sepsis)	1	7	3.60%	1.38%
	Unspecified Respiratory Cancer	3	7	3.63%	1.40%
Mongolia	Hypertension	2	249	12.36%	1.45%
	right heart failure and pulmonary heart disease	2	200	9.91%	1.16%
	Senility	1	90	4.47%	0.52%
	External Causes UDI, type unspecified	2	83	4.15%	0.49%
	Atherosclerosis	2	75	3.76%	0.44%
Montenegro	All, III Defined code for causes of death	1	309	12.47%	6.05%
	Shock, Cardiac Arrest, Coma	1	306	12.34%	5.99%
	Senility	1	198	8.00%	3.89%
	Heart failure unspecified right or left	2	144	5.80%	2.82%
	Unspecified Site Cancer	3	118	4.79%	2.32%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Morocco	Shock, Cardiac Arrest, Coma	1	7062	19.73%	13.47%
	Senility	1	6699	18.72%	12.77%
	All, III Defined code for causes of death	1	2994	8.37%	5.71%
	Unspecified Heart Diseases	3	2015	5.63%	3.84%
	Exposure to unspecified factor X59	2	1477	4.13%	2.82%
Netherlands	Heart failure unspecified right or left	2	6373	13.14%	4.33%
	All, III Defined code for causes of death	1	4180	8.62%	2.84%
	Shock, Cardiac Arrest, Coma	1	2123	4.38%	1.44%
	Unspecified Site Cancer	3	2084	4.30%	1.42%
	Sepsis (Non- maternal and neonatal sepsis)	1	1954	4.03%	1.33%
New Zealand	Unspecified Site Cancer	3	417	8.27%	1.31%
	Left heart failure	1	189	3.76%	0.60%
	All, III Defined code for causes of death	1	185	3.67%	0.58%
	Unspecified GI Cancer	3	161	3.21%	0.51%
	Sepsis (Non- maternal and neonatal sepsis)	1	123	2.45%	0.39%
Nicaragua	Hypertension	2	409	7.30%	1.83%
	Alcoholic hepatic failure	3	215	3.85%	0.97%
	Sepsis (Non- maternal and neonatal sepsis)	1	212	3.80%	0.95%
	Hepatic Failure	1	197	3.52%	0.88%
	Primary or secondary Liver Cancer Unspecified	3	192	3.43%	0.86%
North Macedonia	All, III Defined code for causes of death	1	982	9.51%	5.11%
	Heart failure unspecified right or left	2	970	9.39%	5.05%
	Shock, Cardiac Arrest, Coma	1	945	9.15%	4.92%
	Hypertension	2	411	3.98%	2.14%
	Atherosclerosis	2	265	2.57%	1.38%
Northern Mariana Islands	Sepsis (Non- maternal and neonatal sepsis)	1	6	8.42%	3.13%
	All, III Defined code for causes of death	1	2	3.62%	1.35%
	Exposure to unspecified factor X59	2	2	3.72%	1.38%
	Shock, Cardiac Arrest, Coma	1	2	3.69%	1.37%
	Unspecified Site Cancer	3	2	3.75%	1.39%
Norway	All, III Defined code for causes of death	1	1758	15.30%	4.32%
	Heart failure unspecified right or left	2	1210	10.53%	2.98%
	Unspecified Site Cancer	3	379	3.30%	0.93%
	Senility	1	354	3.08%	0.87%
	Unspecified Infectious Diseases	2	330	2.87%	0.81%
Oman	All, III Defined code for causes of death	1	2204	41.65%	28.20%
	Shock, Cardiac Arrest, Coma	1	508	9.60%	6.50%



## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Oman	Sepsis (Non- maternal and neonatal sepsis)	1	350	6.63%	4.49%
	External Causes UDI, type unspecified	2	297	5.62%	3.81%
	Hypertension	2	281	5.32%	3.60%
Palestine	Shock, Cardiac Arrest, Coma	1	750	16.16%	5.87%
	Senility	1	694	14.94%	5.43%
	Heart failure unspecified right or left	2	598	12.87%	4.67%
	All, III Defined code for causes of death	1	435	9.36%	3.40%
	Sepsis (Non- maternal and neonatal sepsis)	1	328	7.06%	2.57%
Panama	All, III Defined code for causes of death	1	482	7.55%	2.65%
	Hypertension	2	365	5.72%	2.01%
	Heart failure unspecified right or left	2	266	4.17%	1.46%
	Unspecified Site Cancer	3	238	3.73%	1.31%
	Shock, Cardiac Arrest, Coma	1	233	3.66%	1.29%
Paraguay	All, III Defined code for causes of death	1	2053	22.25%	7.17%
	Heart failure unspecified right or left	2	519	5.62%	1.81%
	Hypertension	2	447	4.85%	1.56%
	Unspecified Site Cancer	3	323	3.50%	1.13%
	Exposure to unspecified factor X59	2	270	2.94%	0.95%
Peru	Unspecified Bacterial Diseases	2	3637	8.60%	3.78%
	Exposure to unspecified factor X59	2	3435	8.12%	3.57%
	Left heart failure	1	2686	6.35%	2.79%
	Hypertension	2	2595	6.13%	2.70%
	Acute kidney failure	1	1177	2.78%	1.22%
Philippines	Shock, Cardiac Arrest, Coma	1	11147	5.32%	1.99%
	All, III Defined code for causes of death	1	10457	4.99%	1.87%
	Sepsis (Non- maternal and neonatal sepsis)	1	7440	3.55%	1.33%
	Left heart failure	1	6966	3.32%	1.24%
	Hypertension	2	6656	3.18%	1.19%
Poland	Heart failure unspecified right or left	2	36239	24.07%	9.18%
	Atherosclerosis	2	27298	18.13%	6.91%
	All, III Defined code for causes of death	1	13663	9.08%	3.46%
	Left heart failure	1	9371	6.23%	2.37%
	Shock, Cardiac Arrest, Coma	1	9226	6.13%	2.34%
Portugal	Heart failure unspecified right or left	2	3648	8.75%	3.35%
	All, III Defined code for causes of death	1	2899	6.96%	2.66%
	Unspecified chronic respiratory diseases	3	1732	4.16%	1.59%
	Shock, Cardiac Arrest, Coma	1	1697	4.07%	1.56%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Portugal	Senility	1	1316	3.16%	1.21%
Puerto Rico	Sepsis (Non- maternal and neonatal sepsis)	1	757	7.00%	2.70%
	All, III Defined code for causes of death	1	583	5.39%	2.08%
	Acute kidney failure	1	475	4.39%	1.69%
	Unspecified Site Cancer	3	376	3.48%	1.34%
	Hypertension	2	369	3.42%	1.32%
Qatar	All, III Defined code for causes of death	1	463	37.76%	21.21%
	Hypertension	2	75	6.19%	3.48%
	Acute Respiratory Failure	1	37	3.04%	1.71%
	Unspecified chronic respiratory diseases	3	35	2.93%	1.64%
	Heart failure unspecified right or left	2	30	2.44%	1.37%
Republic of Korea	Senility	1	12447	15.84%	4.51%
	All, III Defined code for causes of death	1	8723	11.10%	3.16%
	Heart failure unspecified right or left	2	4743	6.04%	1.72%
	Shock, Cardiac Arrest, Coma	1	3579	4.55%	1.30%
	Sepsis (Non- maternal and neonatal sepsis)	1	3022	3.85%	1.10%
Republic of Moldova	Primary or secondary Liver Cancer Unspecified	3	416	7.50%	1.04%
	All, III Defined code for causes of death	1	262	4.74%	0.66%
	Exposure to unspecified factor X59	2	185	3.34%	0.46%
	Unspecified Site Cancer	3	126	2.28%	0.32%
	Pulmonary Embolism	1	93	1.69%	0.24%
Romania	Hypertension	2	16208	17.49%	6.20%
	Atherosclerosis	2	9415	10.16%	3.60%
	right heart failure and pulmonary heart disease	2	2670	2.88%	1.02%
	All, III Defined code for causes of death	1	2454	2.65%	0.94%
	Primary or secondary Liver Cancer Unspecified	3	2192	2.37%	0.84%
Russian Federation	Senility	1	94113	21.20%	5.02%
	All, III Defined code for causes of death	1	39956	9.00%	2.13%
	Intermediate cause for CNS	1	24747	5.58%	1.32%
	Undetermined intent of fall	2	10809	2.44%	0.58%
	Atherosclerosis	2	10749	2.42%	0.57%
Saint Kitts and Nevis	Heart failure unspecified right or left	2	6	4.05%	1.62%
	Hypertension	2	6	4.10%	1.64%
	Undetermined intent Drowning	2	6	4.73%	1.89%
	Left heart failure	1	5	3.69%	1.47%
	Unspecified Site Cancer	3	4	3.36%	1.34%
Saint Lucia	Hypertension	2	29	6.32%	2.71%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Saint Lucia	Sepsis (Non- maternal and neonatal sepsis)	1	18	3.86%	1.65%
	Unspecified Site Cancer	3	18	4.02%	1.72%
	All, III Defined code for causes of death	1	17	3.78%	1.62%
	Exposure to unspecified factor X59	2	11	2.52%	1.08%
Saint Vincent and the Grenadines	Hypertension	2	22	6.36%	2.51%
	Sepsis (Non- maternal and neonatal sepsis)	1	19	5.66%	2.23%
	All, III Defined code for causes of death	1	18	5.34%	2.11%
	Pneumonitis	1	14	4.15%	1.64%
Serbia	Left heart failure	1	9	2.72%	1.07%
	Hypertension	2	4564	10.32%	4.40%
	All, III Defined code for causes of death	1	3992	9.03%	3.85%
	Shock, Cardiac Arrest, Coma	1	3311	7.49%	3.19%
Singapore	Heart failure unspecified right or left	2	2978	6.74%	2.87%
	Atherosclerosis	2	1734	3.92%	1.67%
	Unspecified Site Cancer	3	151	2.80%	0.76%
	Non-follicular lymphoma, unspecified	3	89	1.65%	0.45%
Slovakia	All, III Defined code for causes of death	1	74	1.39%	0.38%
	Unspecified Bronchitis and Bronchiectasis	3	73	1.36%	0.37%
	Pulmonary Embolism	1	53	1.00%	0.27%
	Heart failure unspecified right or left	2	815	9.66%	1.59%
Slovenia	All, III Defined code for causes of death	1	623	7.38%	1.21%
	External Causes UDI, type unspecified	2	527	6.25%	1.03%
	Unspecified Site Cancer	3	426	5.05%	0.83%
	Senility	1	356	4.23%	0.69%
South Africa	Heart failure unspecified right or left	2	1607	35.48%	8.10%
	All, III Defined code for causes of death	1	249	5.51%	1.26%
	Unspecified Site Cancer	3	233	5.16%	1.18%
	Atherosclerosis	2	182	4.03%	0.92%
Spain	Sepsis (Non- maternal and neonatal sepsis)	1	87	1.93%	0.44%
	All, III Defined code for causes of death	1	56759	23.70%	12.03%
	Exposure to unspecified factor X59	2	16386	6.84%	3.47%
	Heart failure unspecified right or left	2	12557	5.24%	2.66%
South Africa	HIV correction for Immunodeficiency other	3	10330	4.31%	2.19%
	Hypertension	2	9936	4.15%	2.11%
	Heart failure unspecified right or left	2	15974	12.00%	3.78%
	Unspecified chronic respiratory diseases	3	13091	9.84%	3.10%
Spain	All, III Defined code for causes of death	1	8765	6.59%	2.07%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Spain	Left heart failure	1	4688	3.52%	1.11%
	Unspecified Site Cancer	3	4462	3.35%	1.06%
Sri Lanka	Senility	1	11112	14.32%	8.53%
	Unspecified Heart Diseases	3	9193	11.85%	7.05%
	Plegia	1	7631	9.83%	5.85%
	Hypertension	2	6945	8.95%	5.33%
	All, III Defined code for causes of death	1	6091	7.85%	4.67%
Suriname	Senility	1	203	15.36%	6.48%
	Heart failure unspecified right or left	2	106	7.98%	3.37%
	Sepsis (Non- maternal and neonatal sepsis)	1	69	5.25%	2.22%
	All, III Defined code for causes of death	1	35	2.66%	1.12%
	Shock, Cardiac Arrest, Coma	1	34	2.59%	1.09%
Sweden	Heart failure unspecified right or left	2	3338	12.59%	3.67%
	All, III Defined code for causes of death	1	1931	7.28%	2.12%
	Unspecified Site Cancer	3	1180	4.45%	1.30%
	Sepsis (Non- maternal and neonatal sepsis)	1	1134	4.28%	1.25%
	Senility	1	1027	3.87%	1.13%
Switzerland	All, III Defined code for causes of death	1	2805	15.80%	4.15%
	Heart failure unspecified right or left	2	1431	8.06%	2.12%
	Shock, Cardiac Arrest, Coma	1	831	4.68%	1.23%
	Hypertension	2	777	4.38%	1.15%
	Senility	1	558	3.15%	0.83%
Syrian Arab Republic	Shock, Cardiac Arrest, Coma	1	14401	45.28%	21.49%
	Heart failure unspecified right or left	2	3854	12.12%	5.75%
	All, III Defined code for causes of death	1	1884	5.93%	2.81%
	Acute Respiratory Failure	1	1229	3.86%	1.83%
	Sepsis (Non- maternal and neonatal sepsis)	1	1227	3.86%	1.83%
Taiwan (Province of China)	Primary or secondary Liver Cancer Unspecified	3	6966	10.96%	4.26%
	Sepsis (Non- maternal and neonatal sepsis)	1	3349	5.27%	2.05%
	Heart failure unspecified right or left	2	2578	4.06%	1.58%
	All, III Defined code for causes of death	1	2232	3.51%	1.37%
	Shock, Cardiac Arrest, Coma	1	2193	3.45%	1.34%
Thailand	All, III Defined code for causes of death	1	94862	42.39%	21.27%
	Sepsis (Non- maternal and neonatal sepsis)	1	26327	11.77%	5.90%
	Acute kidney failure	1	8909	3.98%	2.00%
	External Causes UDI, type unspecified	2	7341	3.28%	1.65%
	Hypertension	2	5756	2.57%	1.29%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Trinidad and Tobago	Hypertension	2	126	3.47%	1.31%
	Unspecified Site Cancer	3	90	2.50%	0.94%
	All, III Defined code for causes of death	1	83	2.30%	0.87%
	Shock, Cardiac Arrest, Coma	1	70	1.93%	0.73%
	Sepsis (Non- maternal and neonatal sepsis)	1	66	1.84%	0.69%
Tunisia	All, III Defined code for causes of death	1	1981	16.95%	9.05%
	Shock, Cardiac Arrest, Coma	1	999	8.54%	4.57%
	External Causes UDI, type unspecified	2	771	6.60%	3.53%
	Senility	1	664	5.68%	3.03%
	Sepsis (Non- maternal and neonatal sepsis)	1	446	3.82%	2.04%
Turkey	Heart failure unspecified right or left	2	18210	14.34%	4.59%
	Left heart failure	1	6214	4.89%	1.57%
	Sepsis (Non- maternal and neonatal sepsis)	1	5719	4.50%	1.44%
	All, III Defined code for causes of death	1	4949	3.90%	1.25%
	Shock, Cardiac Arrest, Coma	1	4926	3.88%	1.24%
Ukraine	Atherosclerosis	2	15375	19.16%	2.58%
	Senility	1	7525	9.38%	1.27%
	All, III Defined code for causes of death	1	3505	4.37%	0.59%
	Heart failure unspecified right or left	2	2882	3.59%	0.48%
	Unspecified Site Cancer	3	2388	2.98%	0.40%
United Kingdom	Unspecified Site Cancer	3	8485	5.87%	1.71%
	Senility	1	7599	5.26%	1.53%
	All, III Defined code for causes of death	1	5194	3.59%	1.05%
	Left heart failure	1	3057	2.12%	0.62%
	Unspecified GI Cancer	3	2868	1.98%	0.58%
United States of America	Left heart failure	1	62967	8.20%	2.32%
	Undetermined intent Poisoning by multiple or unspecified drug	1	46011	5.99%	1.70%
	Sepsis (Non- maternal and neonatal sepsis)	1	41965	5.46%	1.55%
	Unspecified Site Cancer	3	37340	4.86%	1.38%
	All, III Defined code for causes of death	1	25203	3.28%	0.93%
United States Virgin Islands	Hypertension	2	29	11.00%	4.36%
	All, III Defined code for causes of death	1	25	9.74%	3.86%
	Shock, Cardiac Arrest, Coma	1	14	5.62%	2.23%
	Unspecified Site Cancer	3	13	5.25%	2.08%
	Sepsis (Non- maternal and neonatal sepsis)	1	12	4.82%	1.91%
Uruguay	All, III Defined code for causes of death	1	2546	19.82%	7.73%
	Heart failure unspecified right or left	2	805	6.27%	2.44%

## Top 5 ICD10 garbage codes by country - 2015 or most recent year

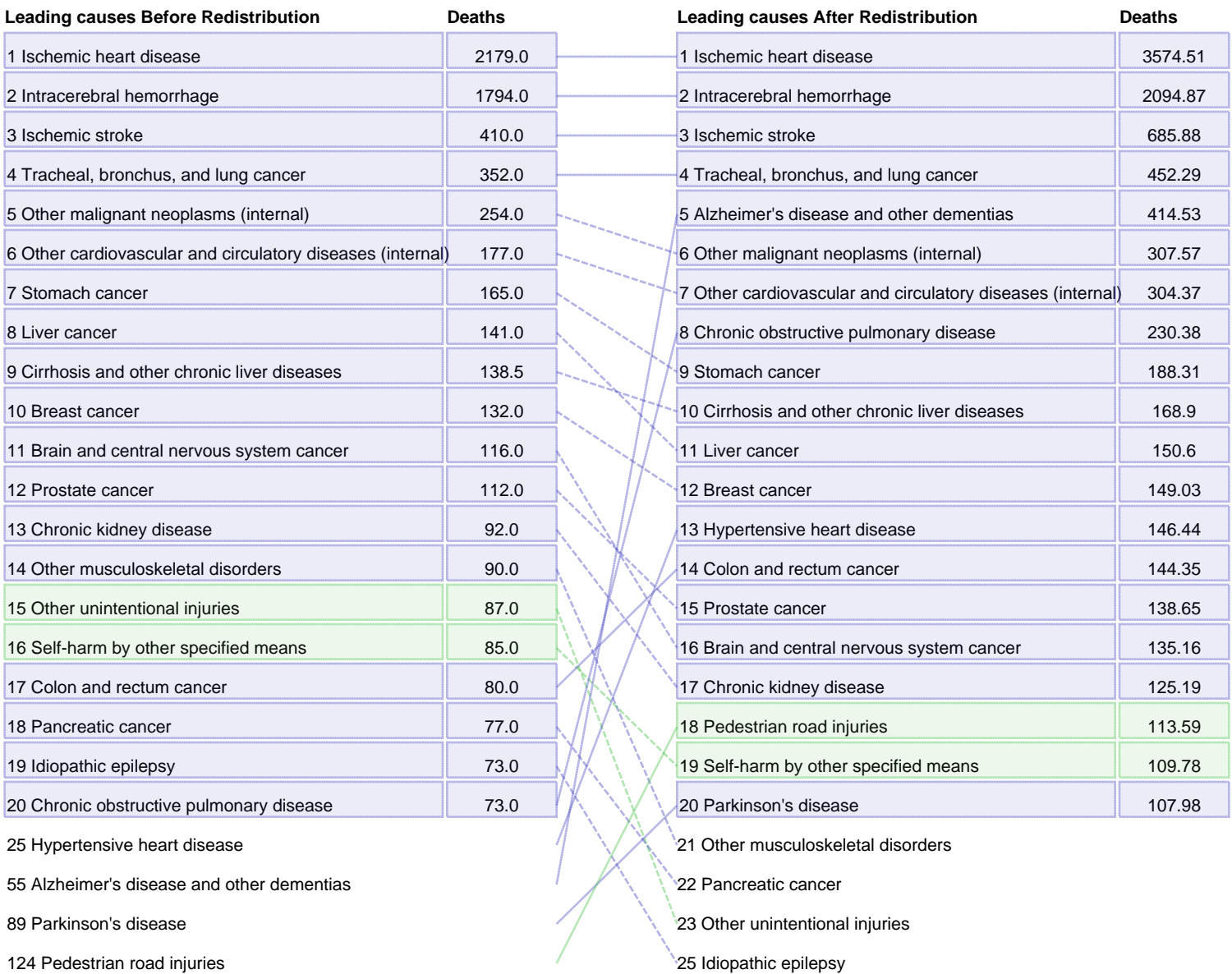
Country	Garbage code	Garbage class	Deaths	Percentage of all garbage deaths	Percentage of total deaths
Uruguay	Unspecified Site Cancer	3	615	4.79%	1.87%
	Shock, Cardiac Arrest, Coma	1	571	4.45%	1.73%
	Exposure to unspecified factor X59	2	461	3.59%	1.40%
Uzbekistan	Atherosclerosis	2	3737	10.00%	2.46%
	Heart failure unspecified right or left	2	3143	8.41%	2.07%
	right heart failure and pulmonary heart disease	2	2138	5.72%	1.41%
	Unspecified Heart Diseases	3	1406	3.76%	0.93%
	Hypertension	2	1307	3.50%	0.86%
Venezuela (Bolivarian Republic of)	Undetermined intent shooting by unspecified firearm	2	6287	15.47%	3.88%
	External Causes UDI, type unspecified	2	1247	3.07%	0.77%
	Sepsis (Non- maternal and neonatal sepsis)	1	1116	2.75%	0.69%
	Hypertension	2	1085	2.67%	0.67%
	Unspecified Site Cancer	3	898	2.21%	0.55%
Zimbabwe	All, Ill Defined code for causes of death	1	2924	11.49%	4.70%
	External Causes UDI, type unspecified	2	1935	7.60%	3.11%
	Heart failure unspecified right or left	2	1866	7.33%	3.00%
	Hypertension	2	976	3.84%	1.57%
	Acute kidney failure	1	754	2.96%	1.21%

The above table contains the top 5 all age, both sex ICD10 garbage codes for all countries with at least one year of ICD10 vital registration data. The displayed year is 2015, or the most recent year available for each country if 2015 is not available. The most specific class of garbage, class 4, has been omitted from this table in order to place focus on the most impactful garbage codes with respect to final GBD cause estimation. Lastly, during the correction step for the misassignment of dementia, parkinson's, and atrial fibrillation (Appendix Figure 1), dementia deaths may be recoded to garbage in the event of an overcoding of dementia. Garbage generated in this manner have been excluded from the above table.

# Appendix Figure 18

## Leading causes of death before and after garbage code redistribution: Albania - 2010.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Andorra - 2015.

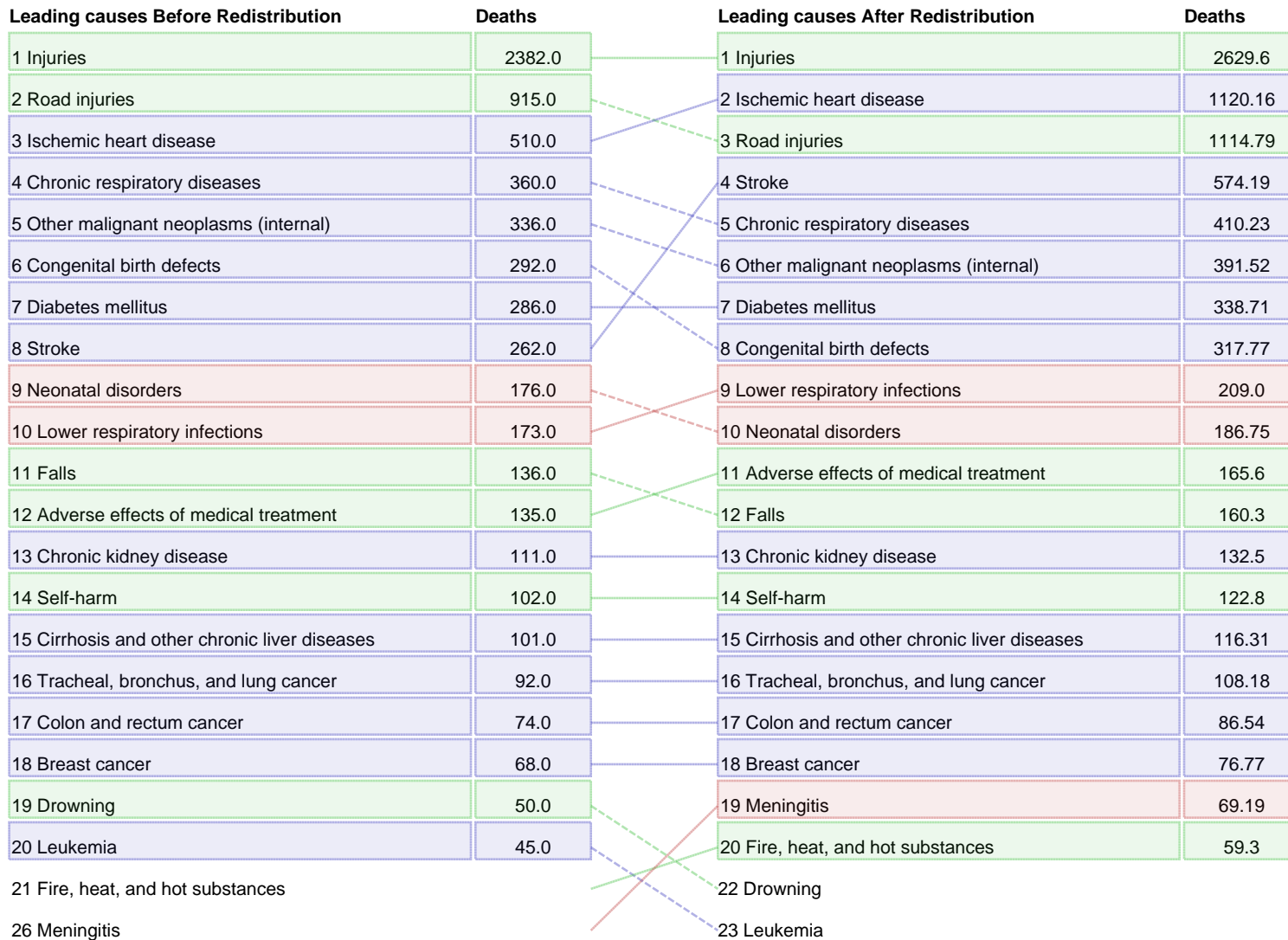
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.

Leading causes Before Redistribution	Deaths	Leading causes After Redistribution	Deaths
1 Alzheimer's disease and other dementias	24.65	1 Ischemic heart disease	27.78
2 Tracheal, bronchus, and lung cancer	21.15	2 Tracheal, bronchus, and lung cancer	24.76
3 Ischemic heart disease	17.0	3 Alzheimer's disease and other dementias	22.29
4 Stroke	14.0	4 Colon and rectum cancer	13.95
5 Colon and rectum cancer	11.06	5 Stroke	13.62
6 Falls	11.0	6 Falls	13.53
7 Chronic respiratory diseases	8.0	7 Hypertensive heart disease	9.35
8 Lower respiratory infections	6.51	8 Chronic respiratory diseases	8.52
9 Hypertensive heart disease	6.1	9 Lower respiratory infections	8.07
10 Stomach cancer	5.03	10 Stomach cancer	6.67
11 Breast cancer	5.0	11 Breast cancer	5.84
12 Self-harm	5.0	12 Self-harm	5.32
13 Cirrhosis and other chronic liver diseases	4.05	13 Cirrhosis and other chronic liver diseases	5.07
14 Esophageal cancer	4.0	14 Esophageal cancer	4.93
15 Brain and central nervous system cancer	4.0	15 Brain and central nervous system cancer	4.86
16 Prostate cancer	3.04	16 Prostate cancer	4.75
17 Pancreatic cancer	3.0	17 Interstitial lung disease and pulmonary sarcoidosis	4.36
18 HIV/AIDS	3.0	18 Pancreatic cancer	3.96
19 Leukemia	3.0	19 Leukemia	3.93
20 Interstitial lung disease and pulmonary sarcoidosis	2.74	20 Parkinson's disease	3.77
23 Parkinson's disease		24 HIV/AIDS	



### Leading causes of death before and after garbage code redistribution: United Arab Emirates - 2007.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



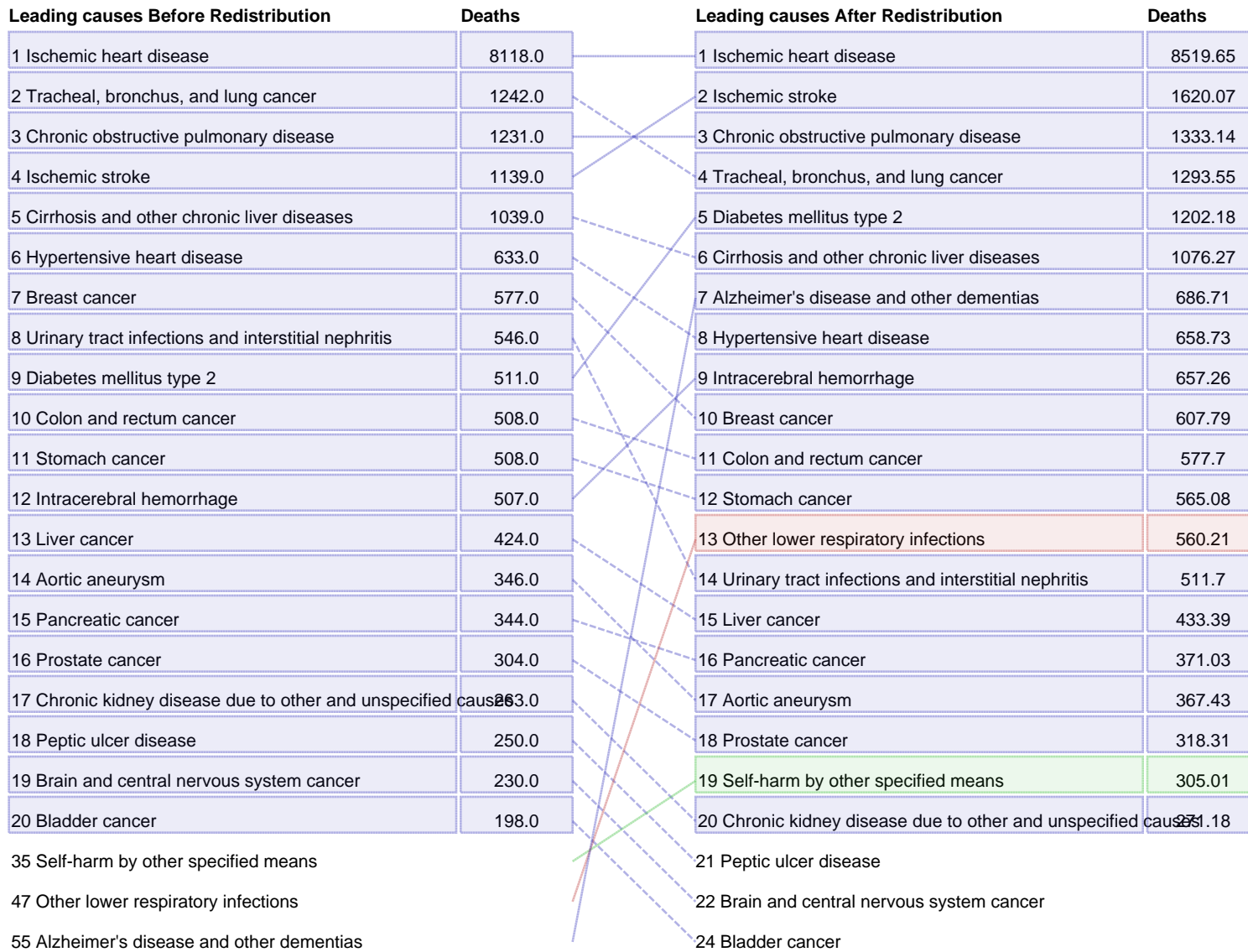
### Leading causes of death before and after garbage code redistribution: Argentina - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Armenia - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



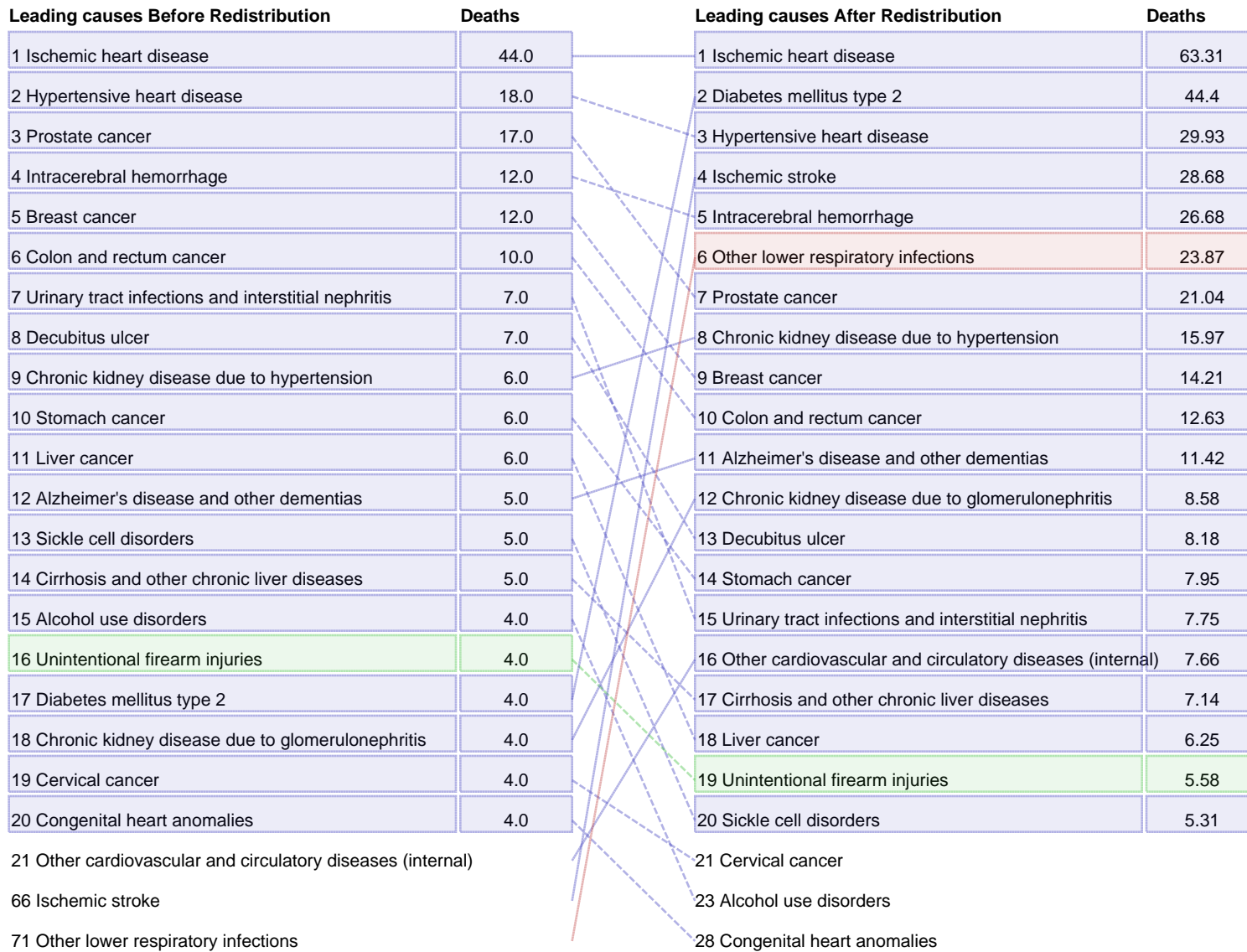
### Leading causes of death before and after garbage code redistribution: American Samoa - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



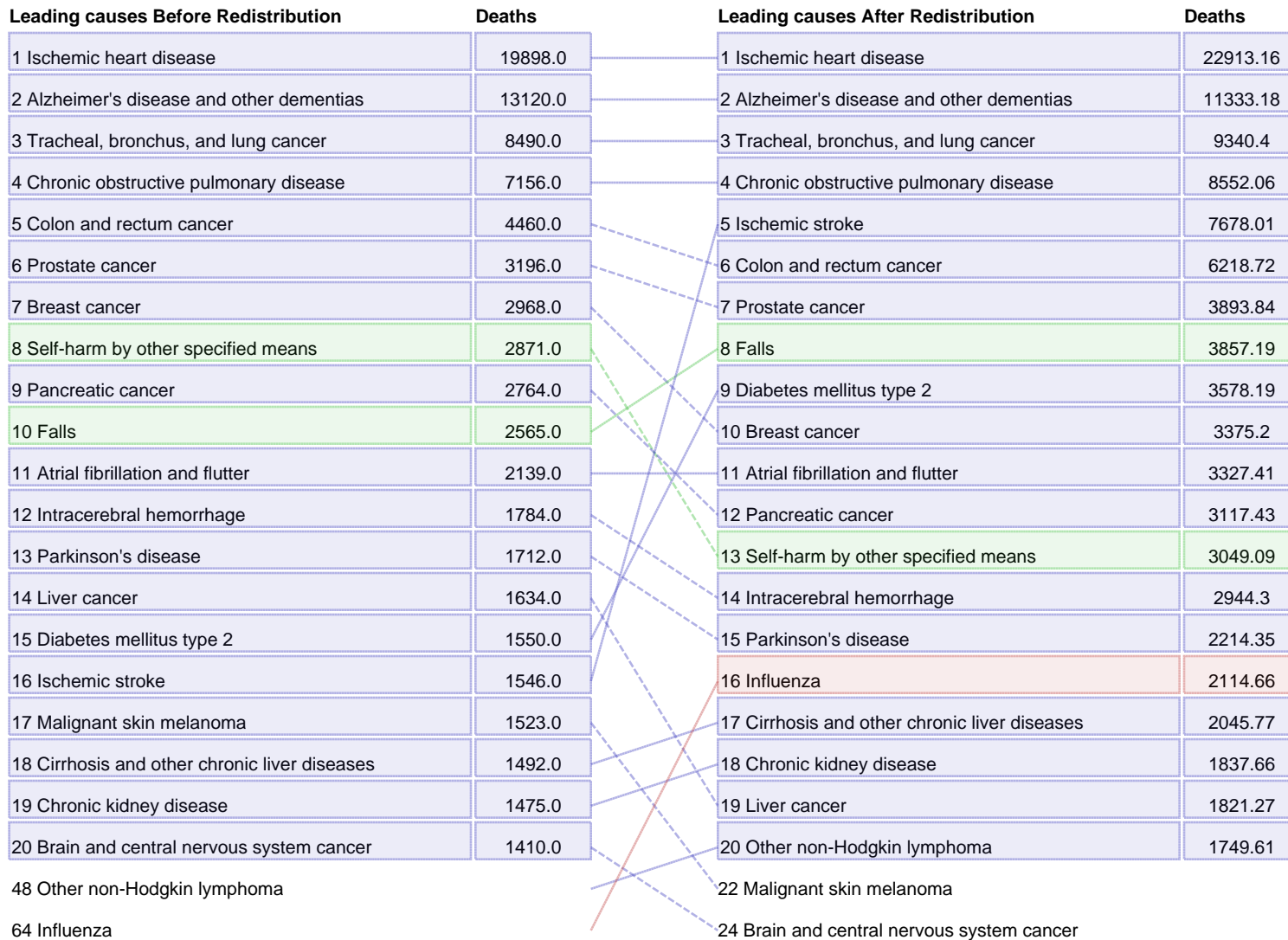
### Leading causes of death before and after garbage code redistribution: Antigua and Barbuda - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



## Leading causes of death before and after garbage code redistribution: Australia - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



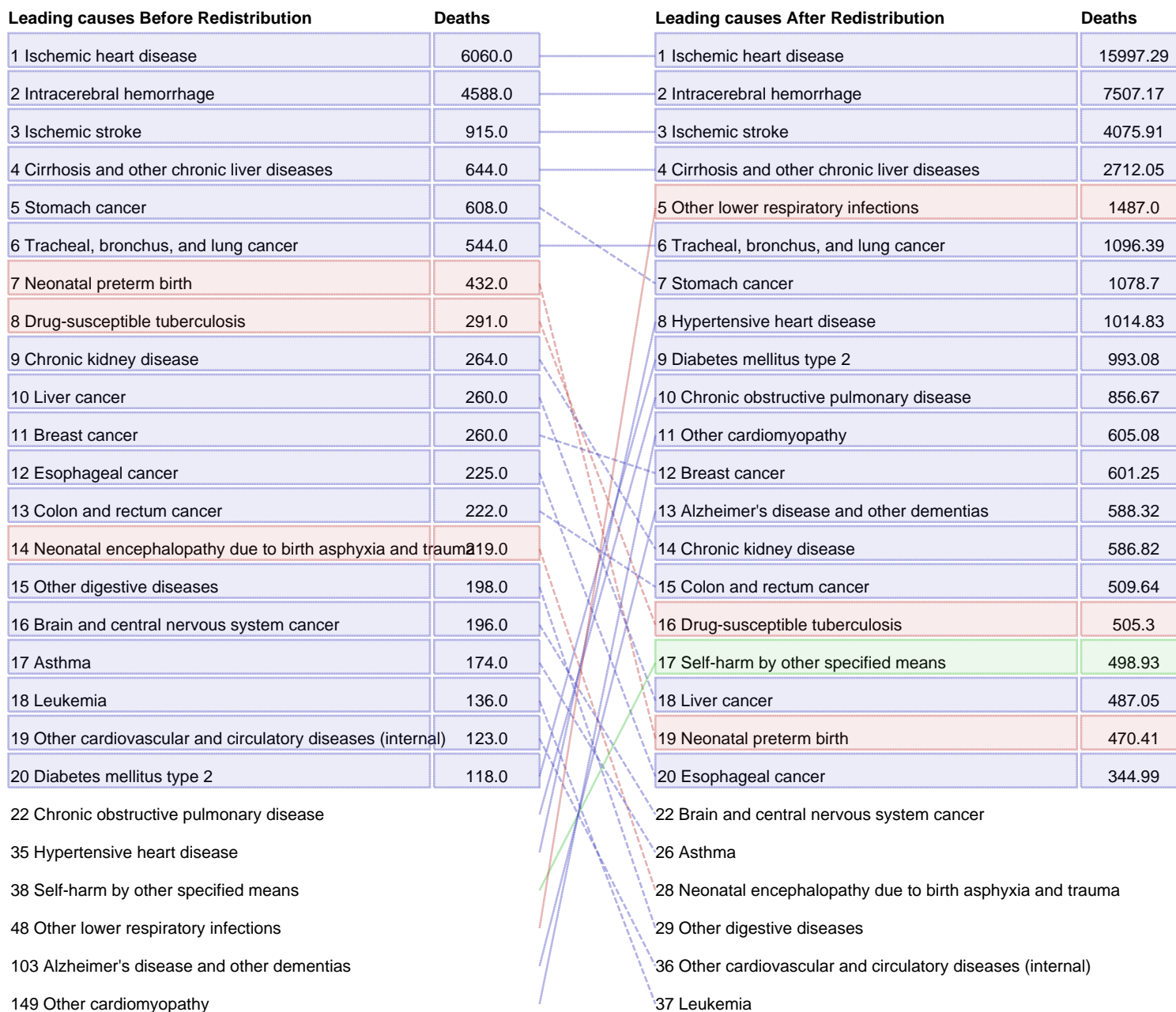
### Leading causes of death before and after garbage code redistribution: Austria - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Azerbaijan - 2007.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





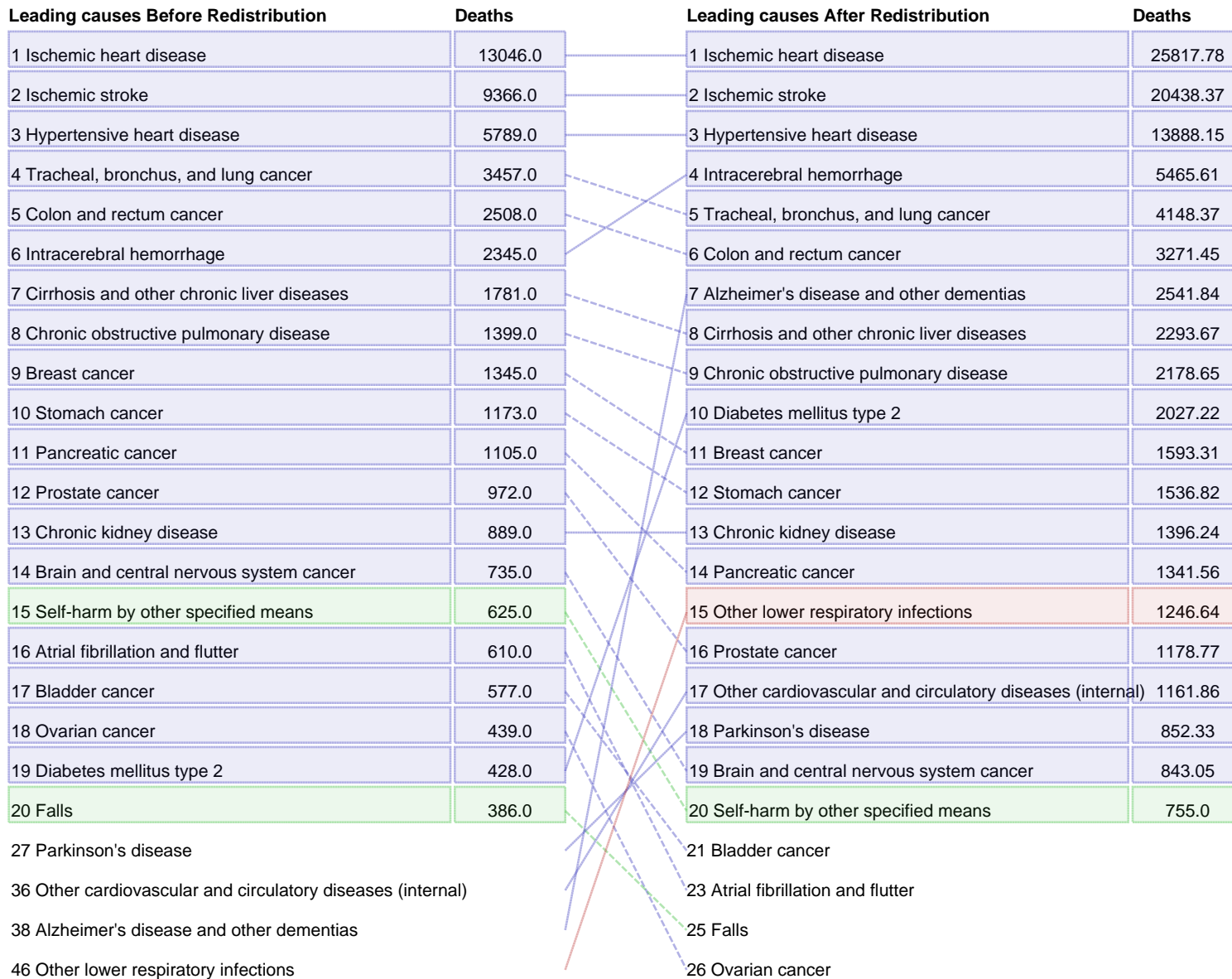
## Leading causes of death before and after garbage code redistribution: Belgium - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



## Leading causes of death before and after garbage code redistribution: Bulgaria - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



## Leading causes of death before and after garbage code redistribution: Bahrain - 2014.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



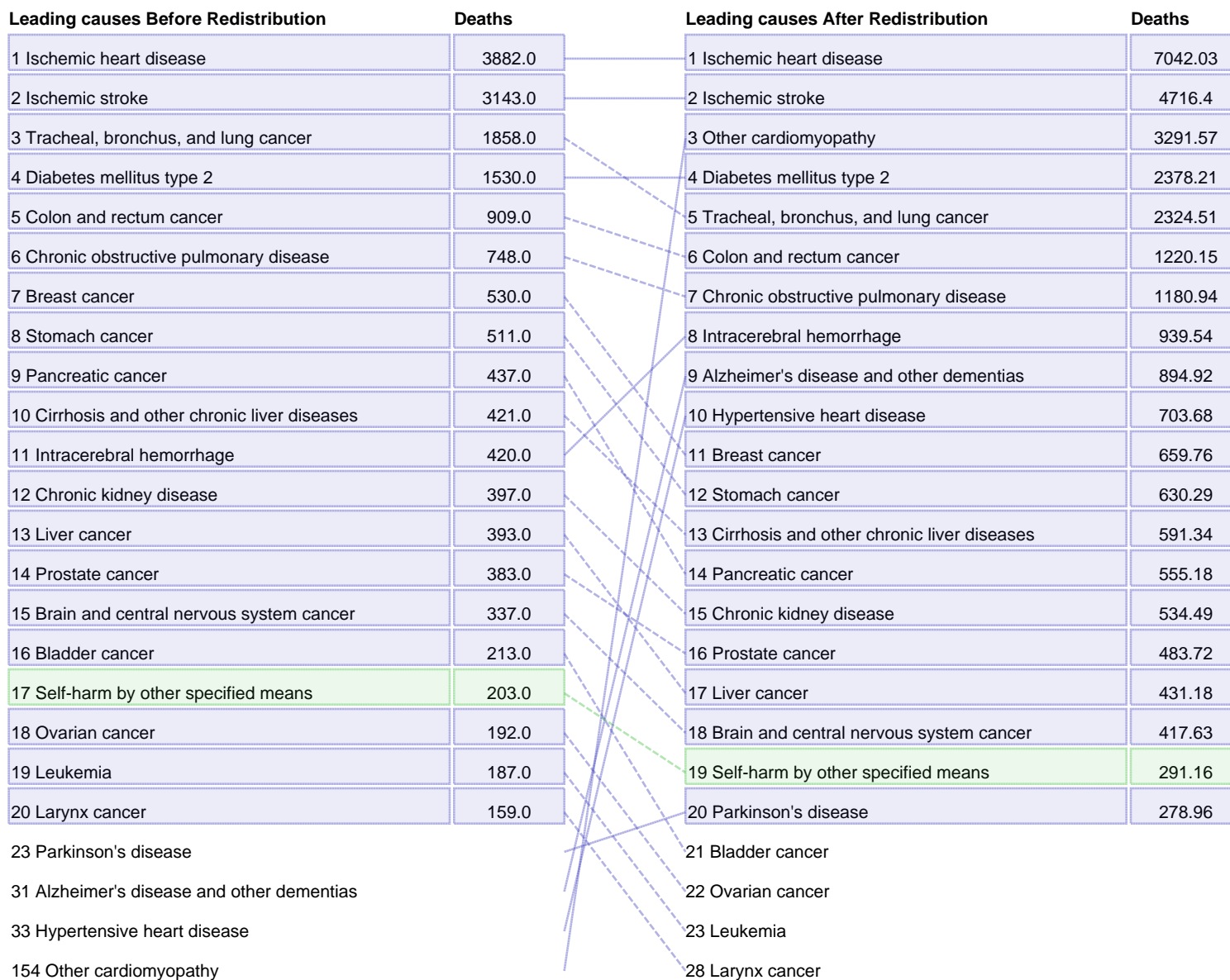
## Leading causes of death before and after garbage code redistribution: Bahamas - 2014.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Bosnia and Herzegovina - 2014.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Belarus - 2014.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



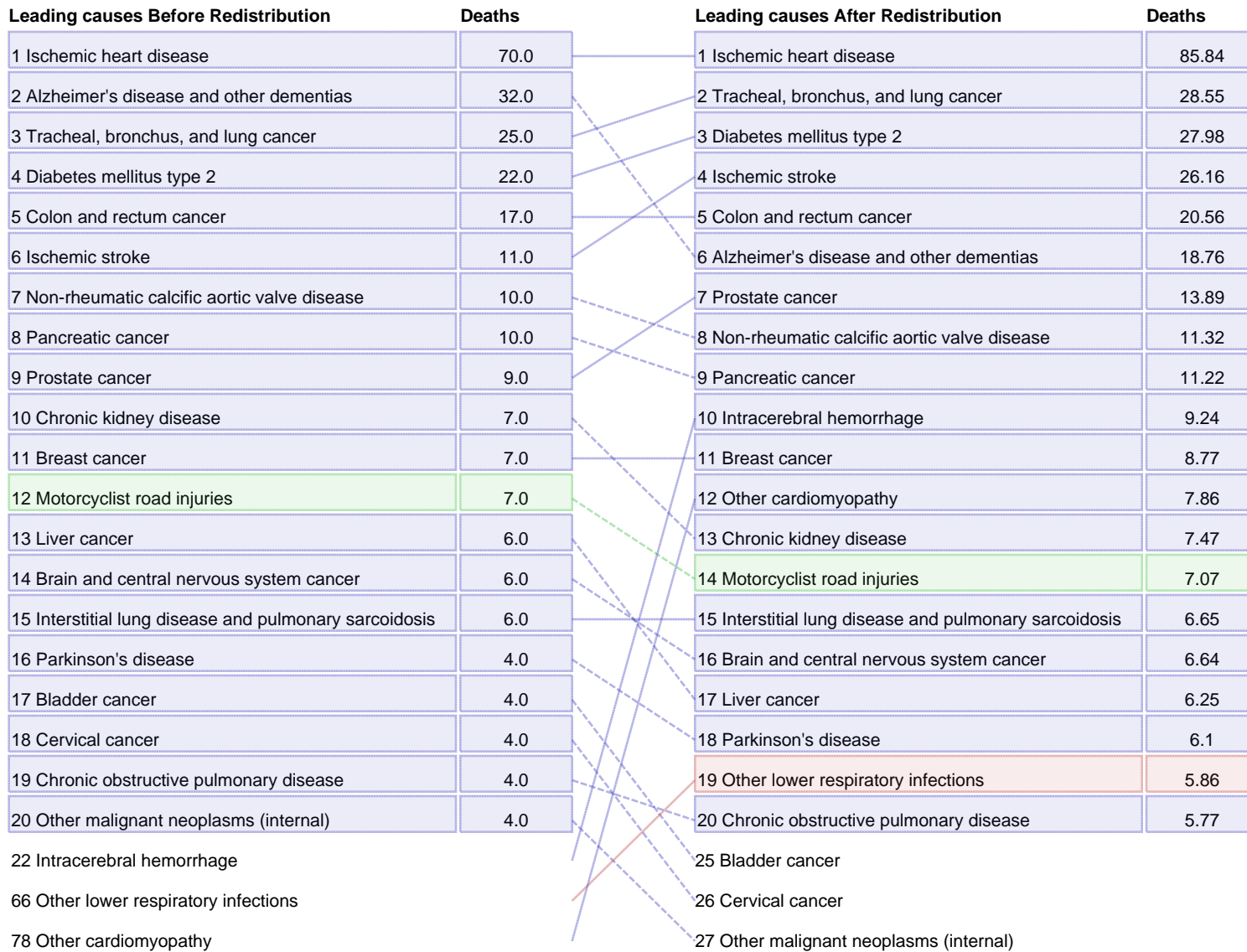
# Leading causes of death before and after garbage code redistribution: Belize - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Bermuda - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





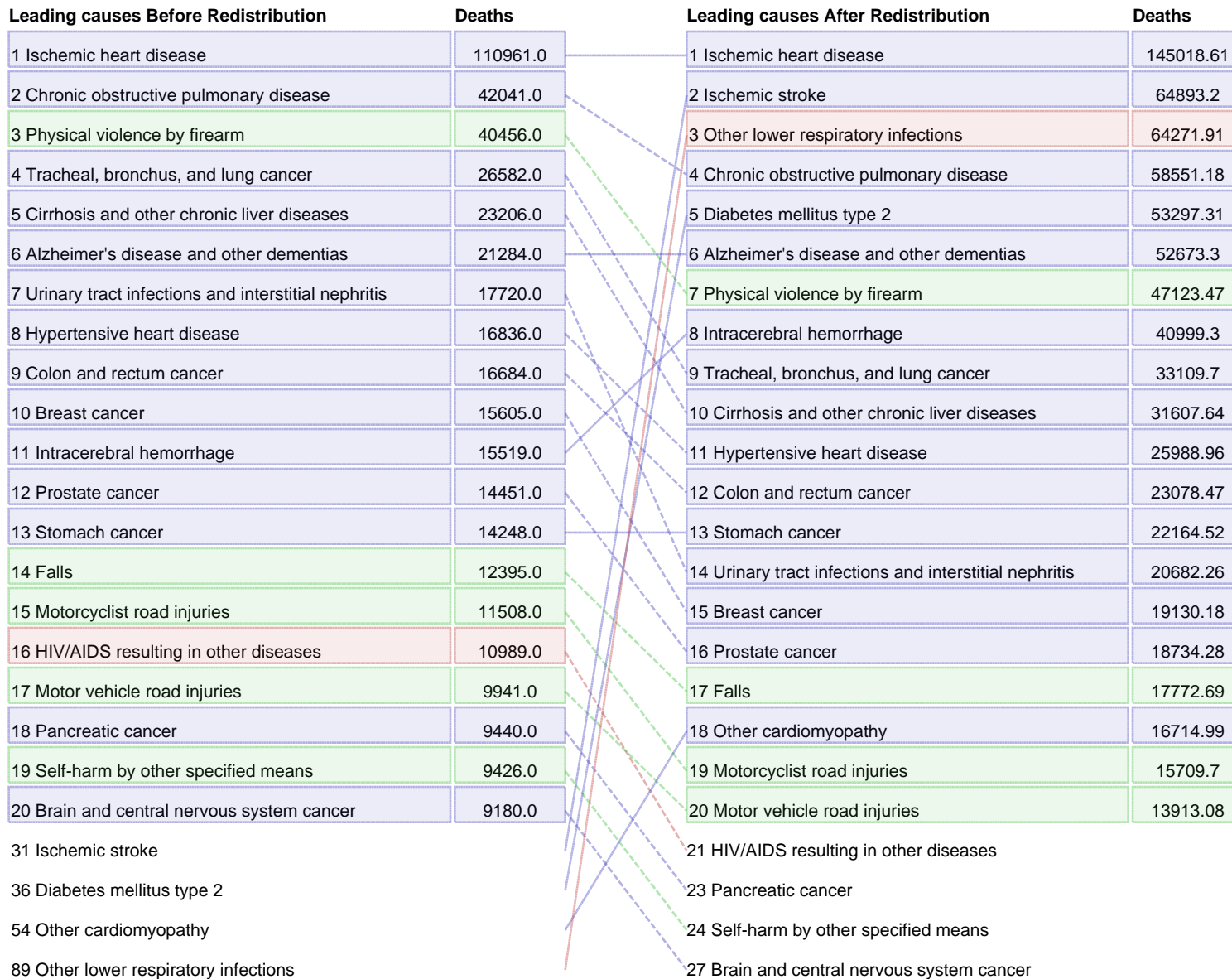
### Leading causes of death before and after garbage code redistribution: Bolivia (Plurinational State of) - 2003.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



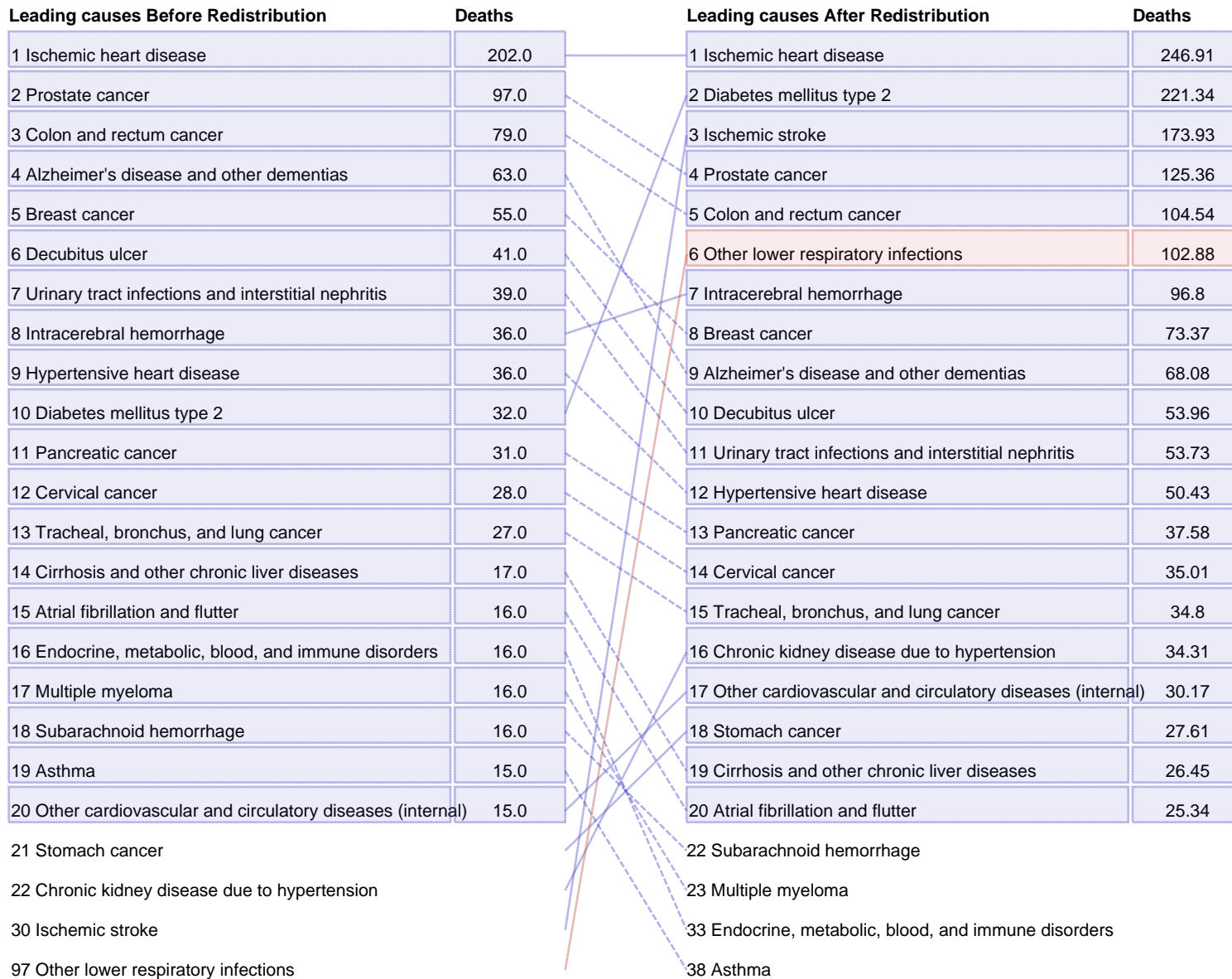
## Leading causes of death before and after garbage code redistribution: Brazil - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



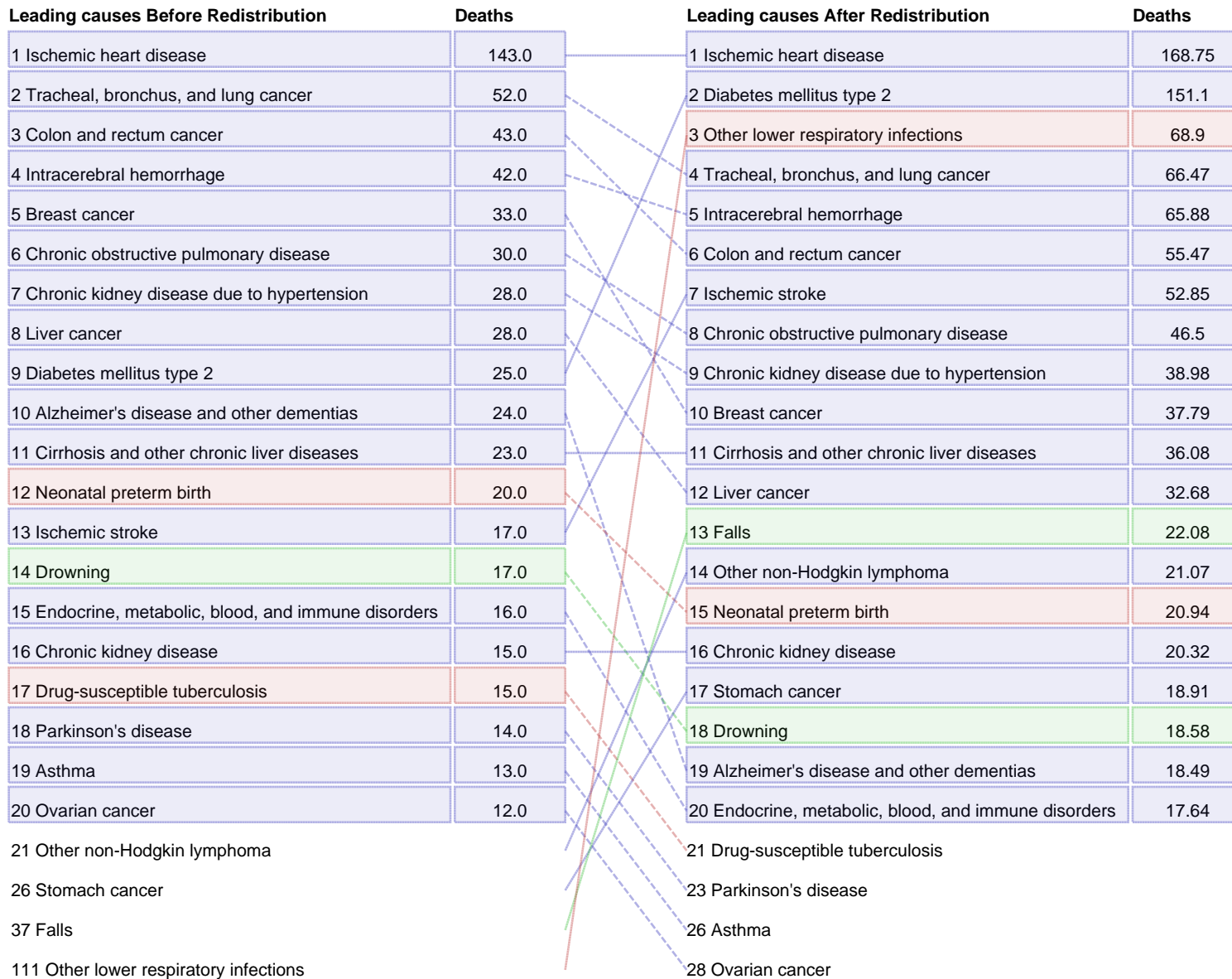
### Leading causes of death before and after garbage code redistribution: Barbados - 2013.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



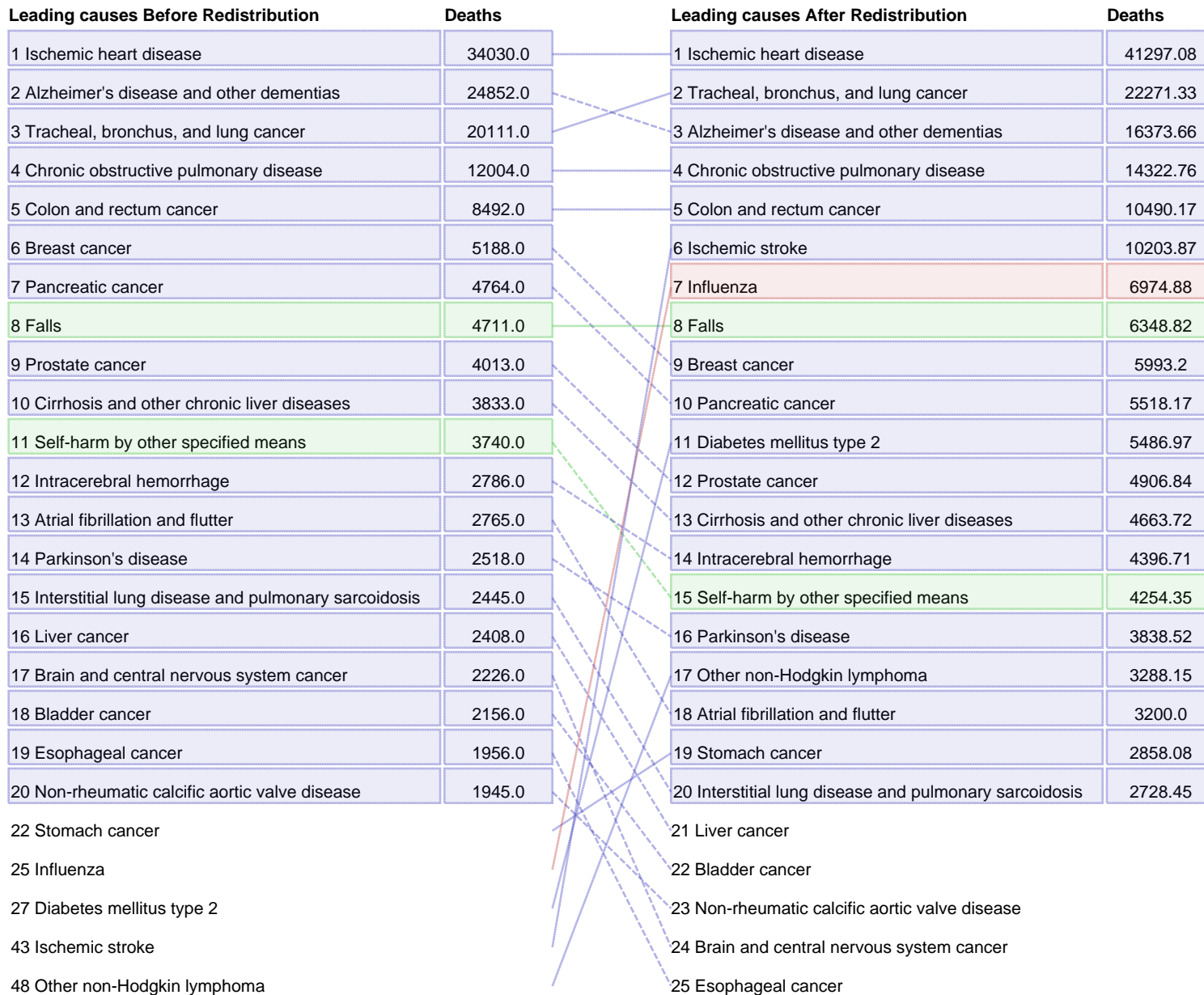
### Leading causes of death before and after garbage code redistribution: Brunei Darussalam - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



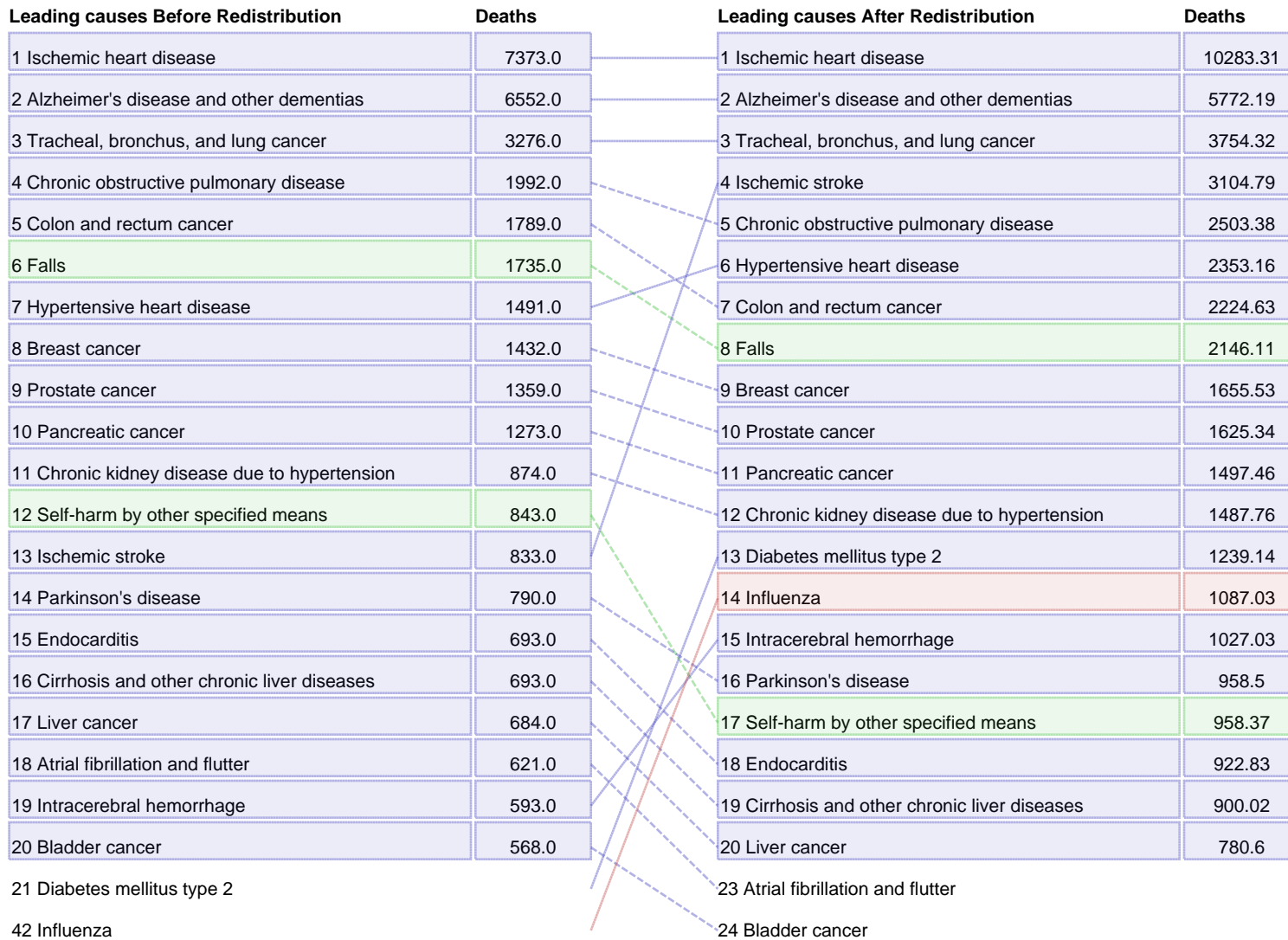
# Leading causes of death before and after garbage code redistribution: Canada - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



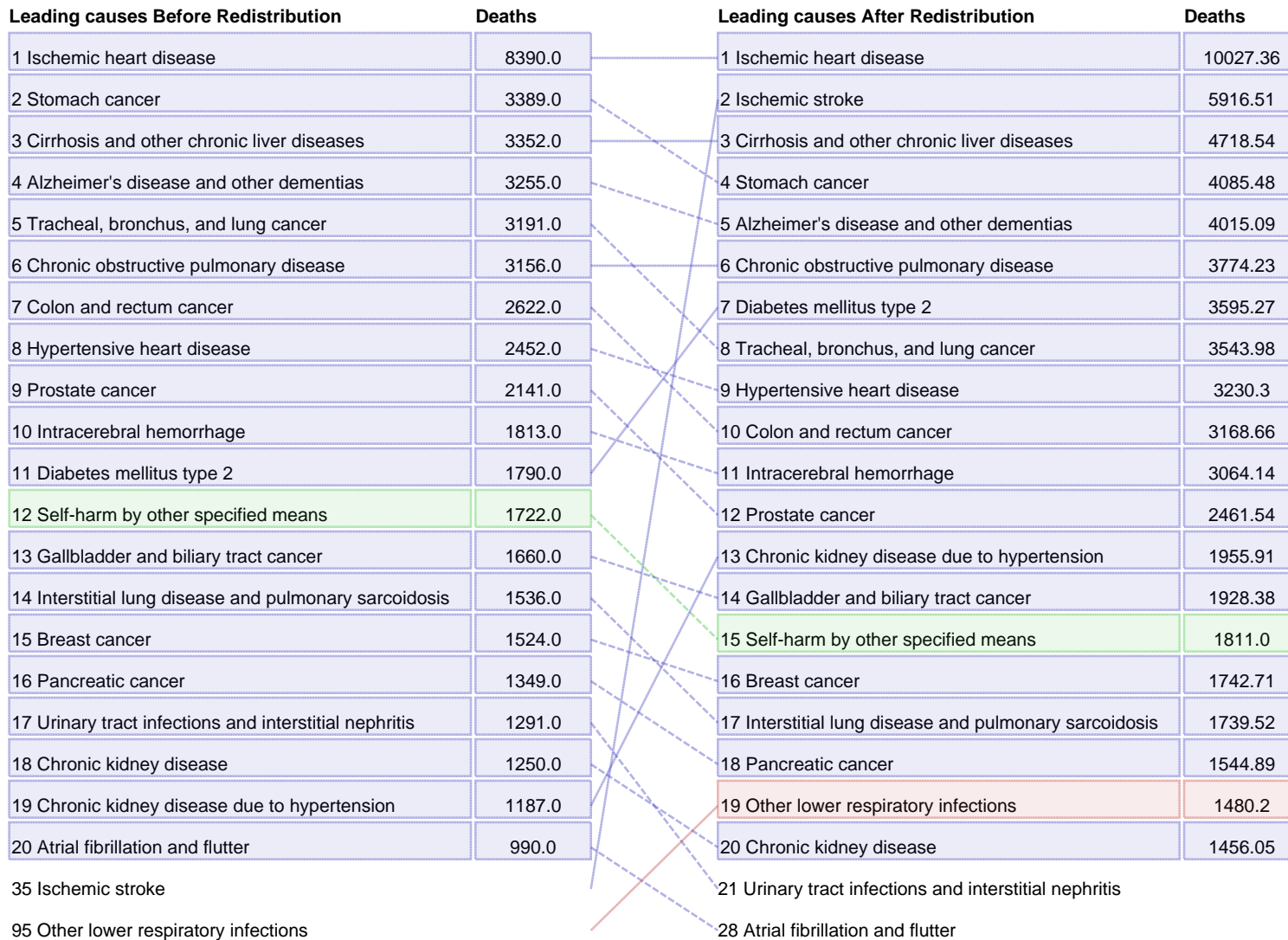
### Leading causes of death before and after garbage code redistribution: Switzerland - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Chile - 2015.

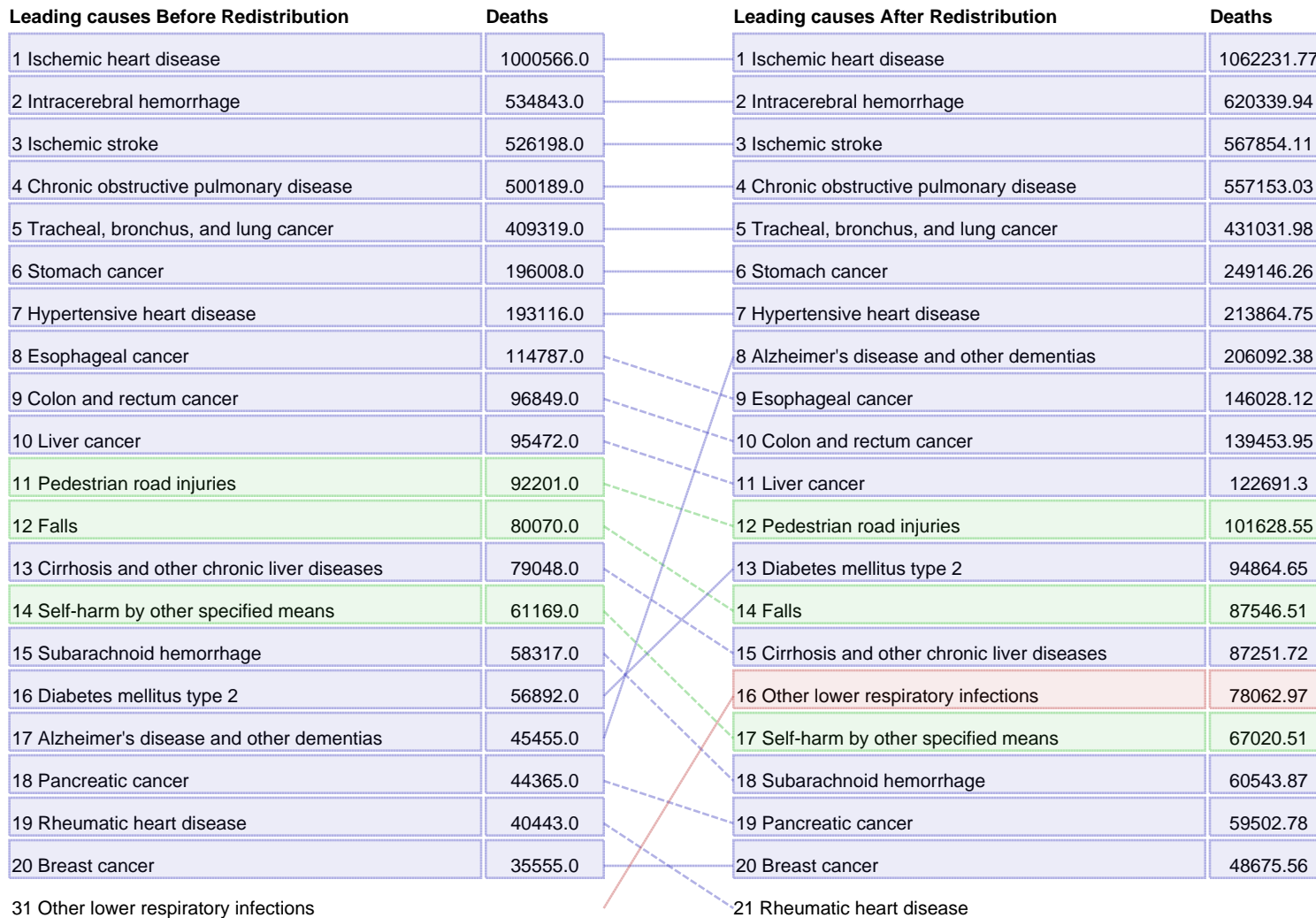
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





### Leading causes of death before and after garbage code redistribution: China - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





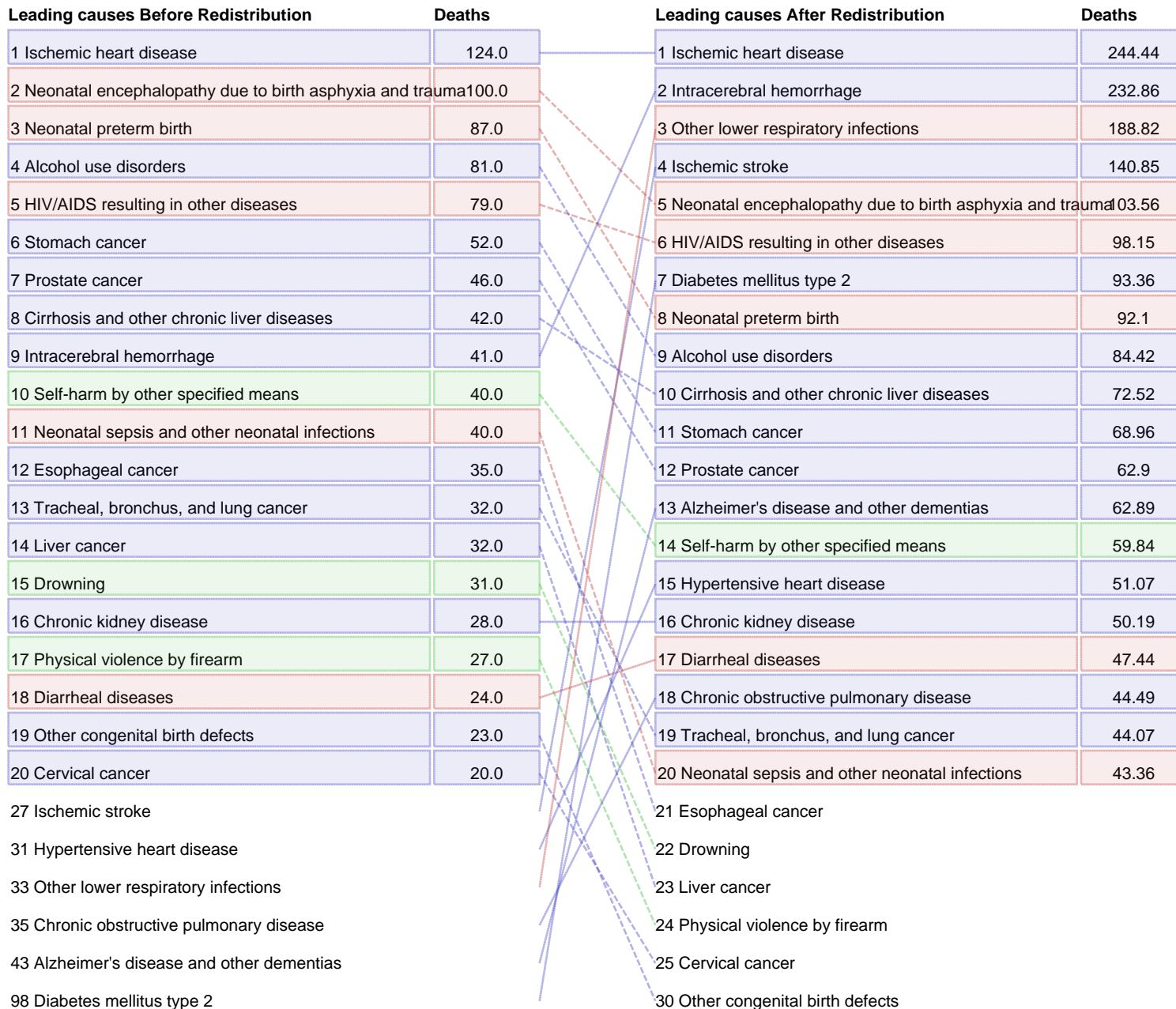
### Leading causes of death before and after garbage code redistribution: Colombia - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



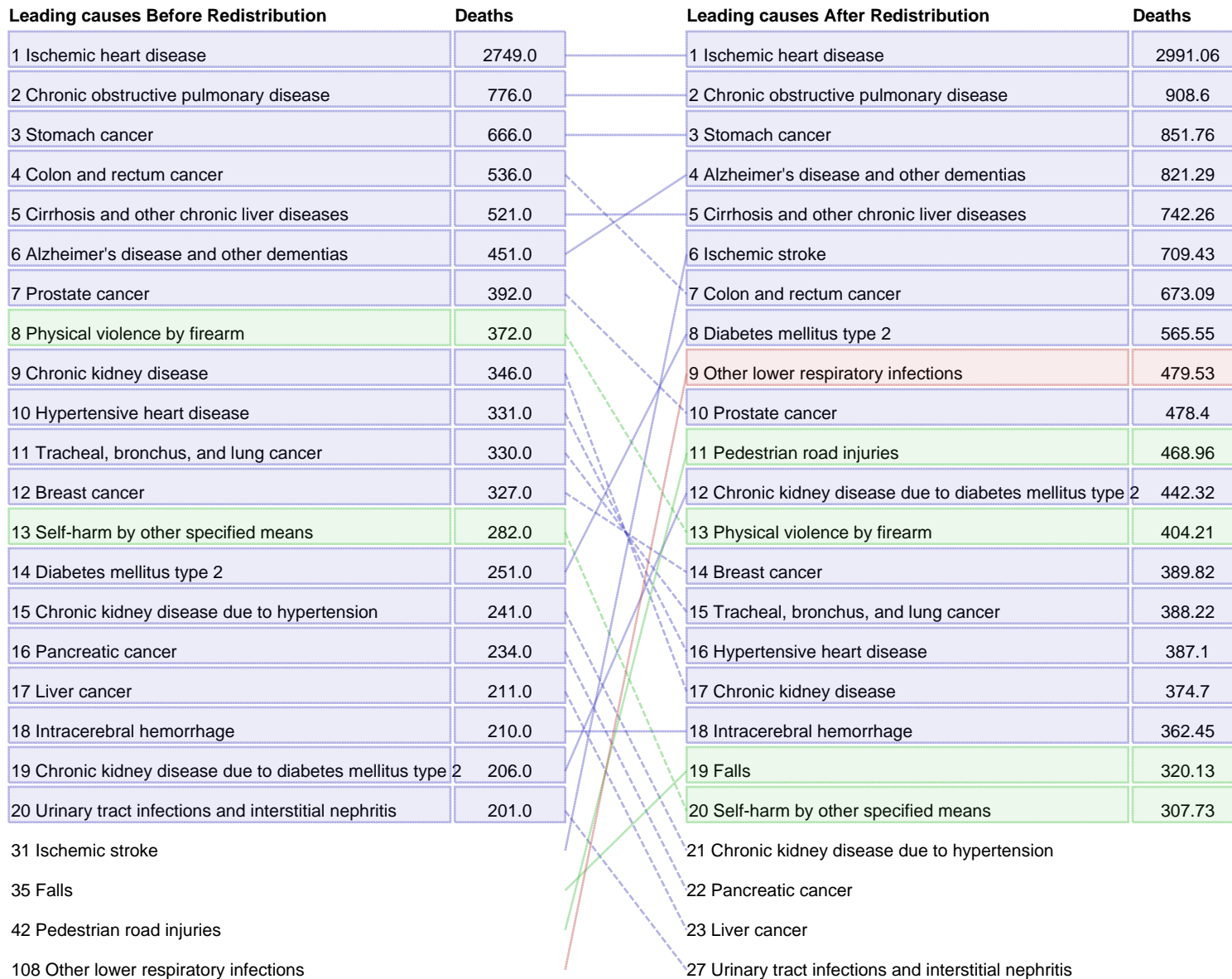
### Leading causes of death before and after garbage code redistribution: Cabo Verde - 2012.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



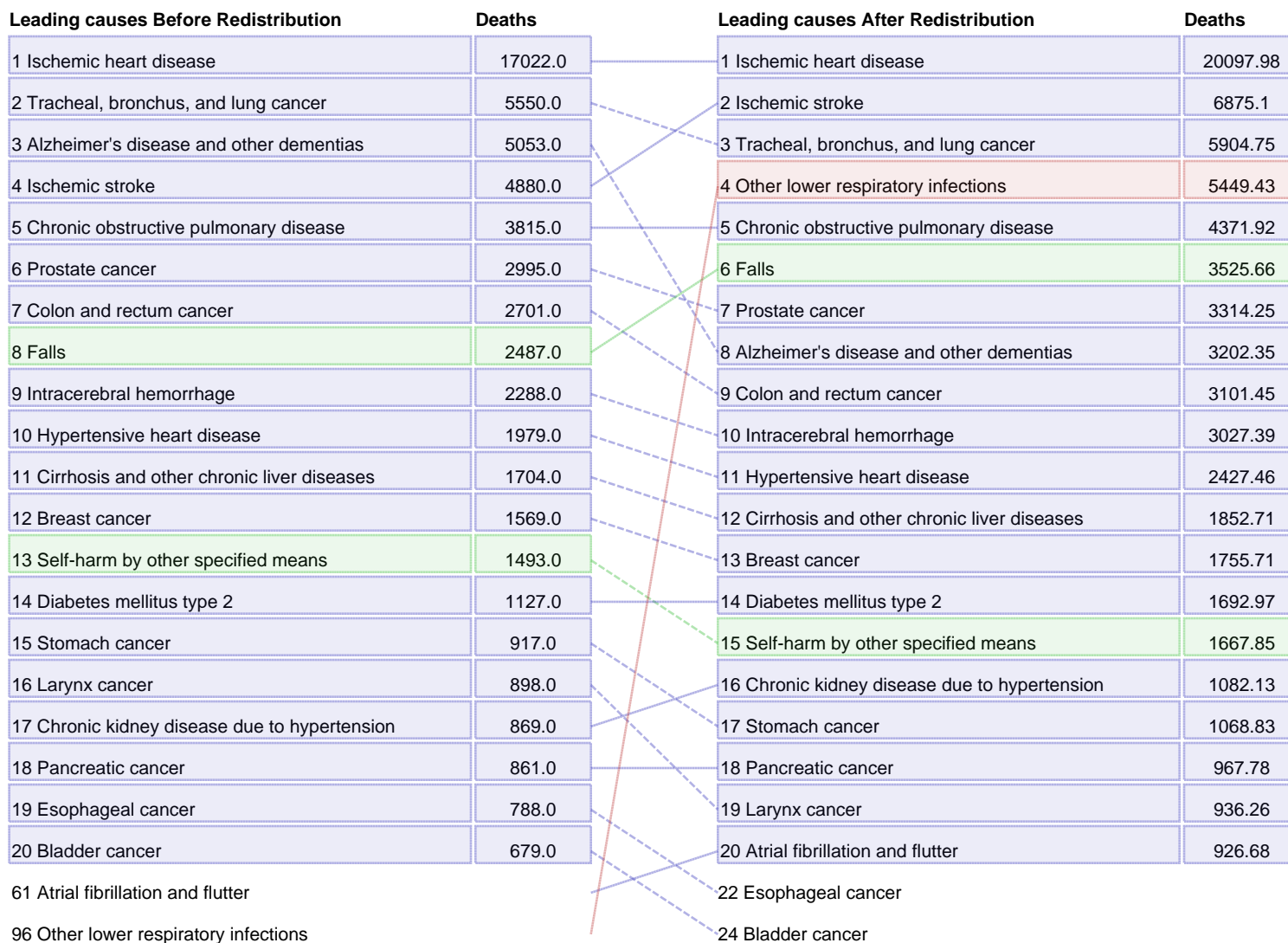
### Leading causes of death before and after garbage code redistribution: Costa Rica - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



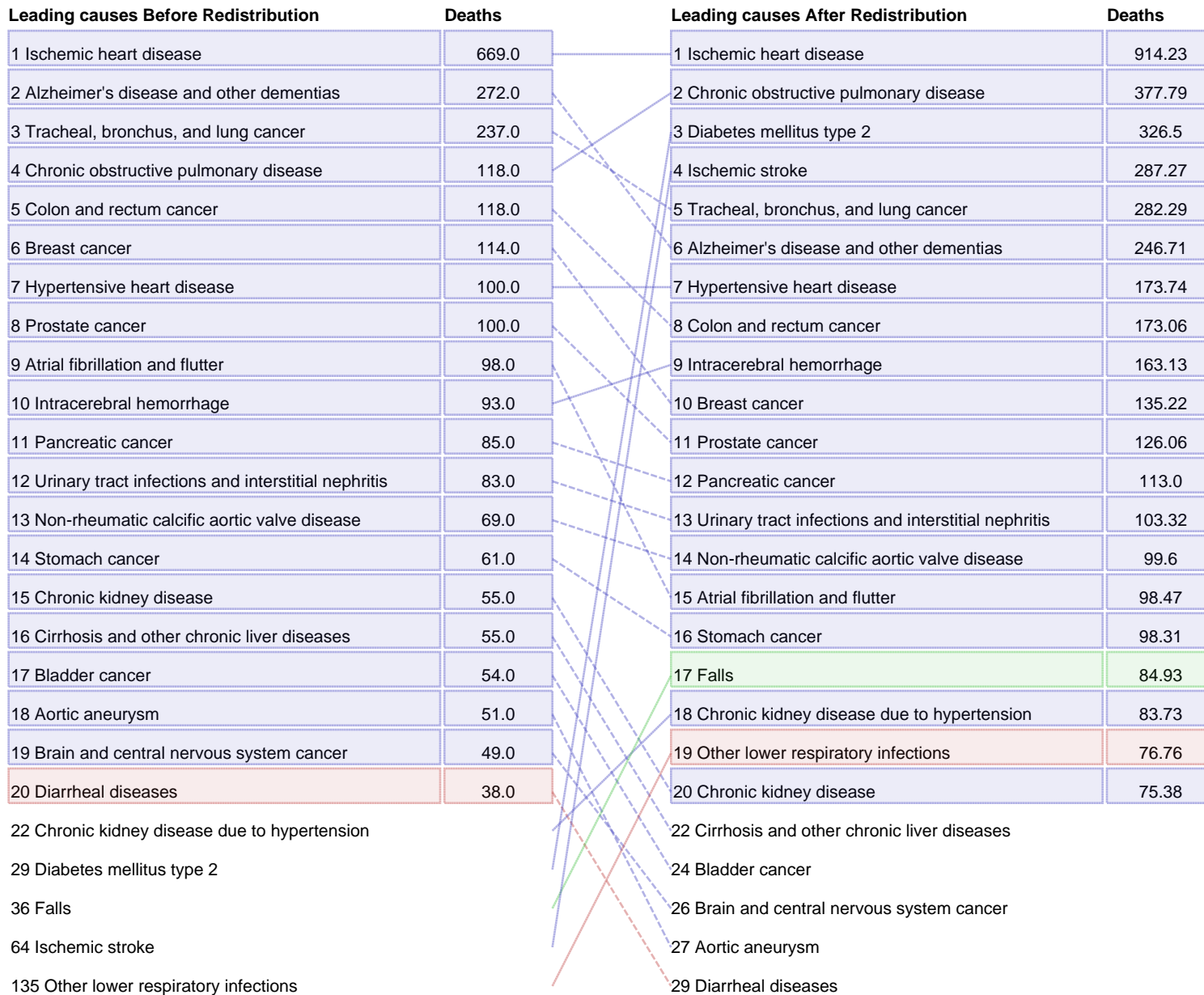
### Leading causes of death before and after garbage code redistribution: Cuba - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



# Leading causes of death before and after garbage code redistribution: Cyprus - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Czechia - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Germany - 2015.

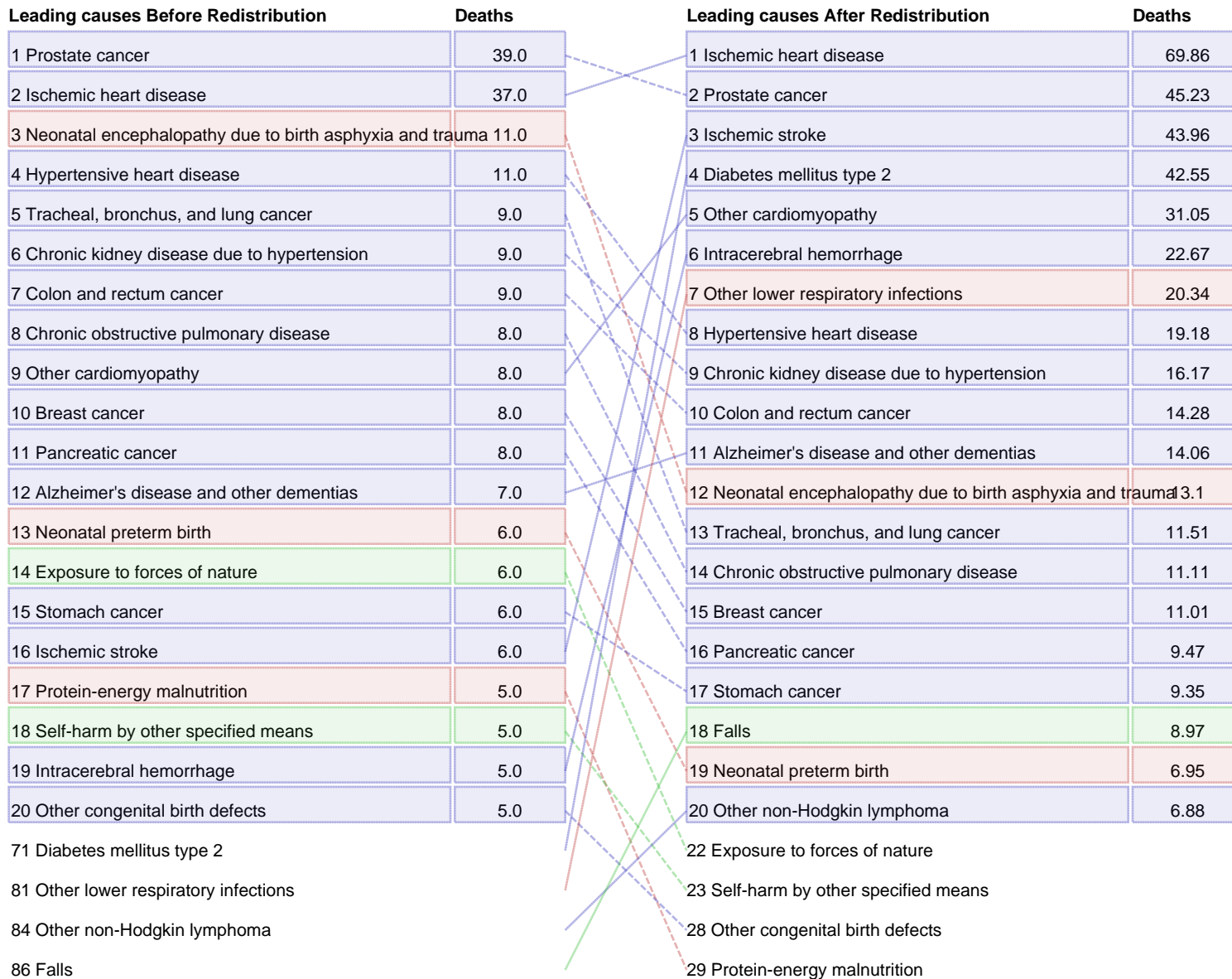
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





### Leading causes of death before and after garbage code redistribution: Dominica - 2015.

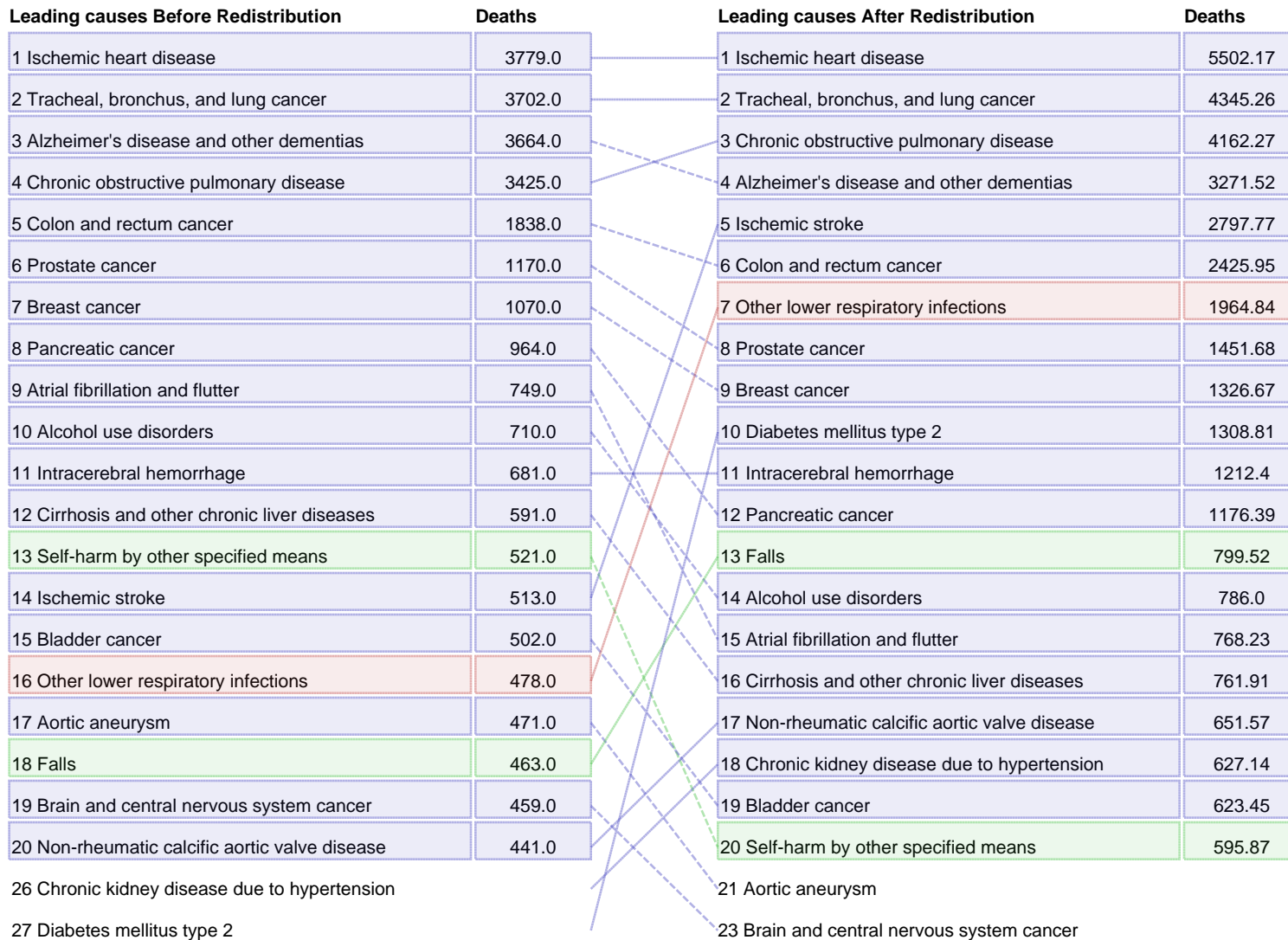
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





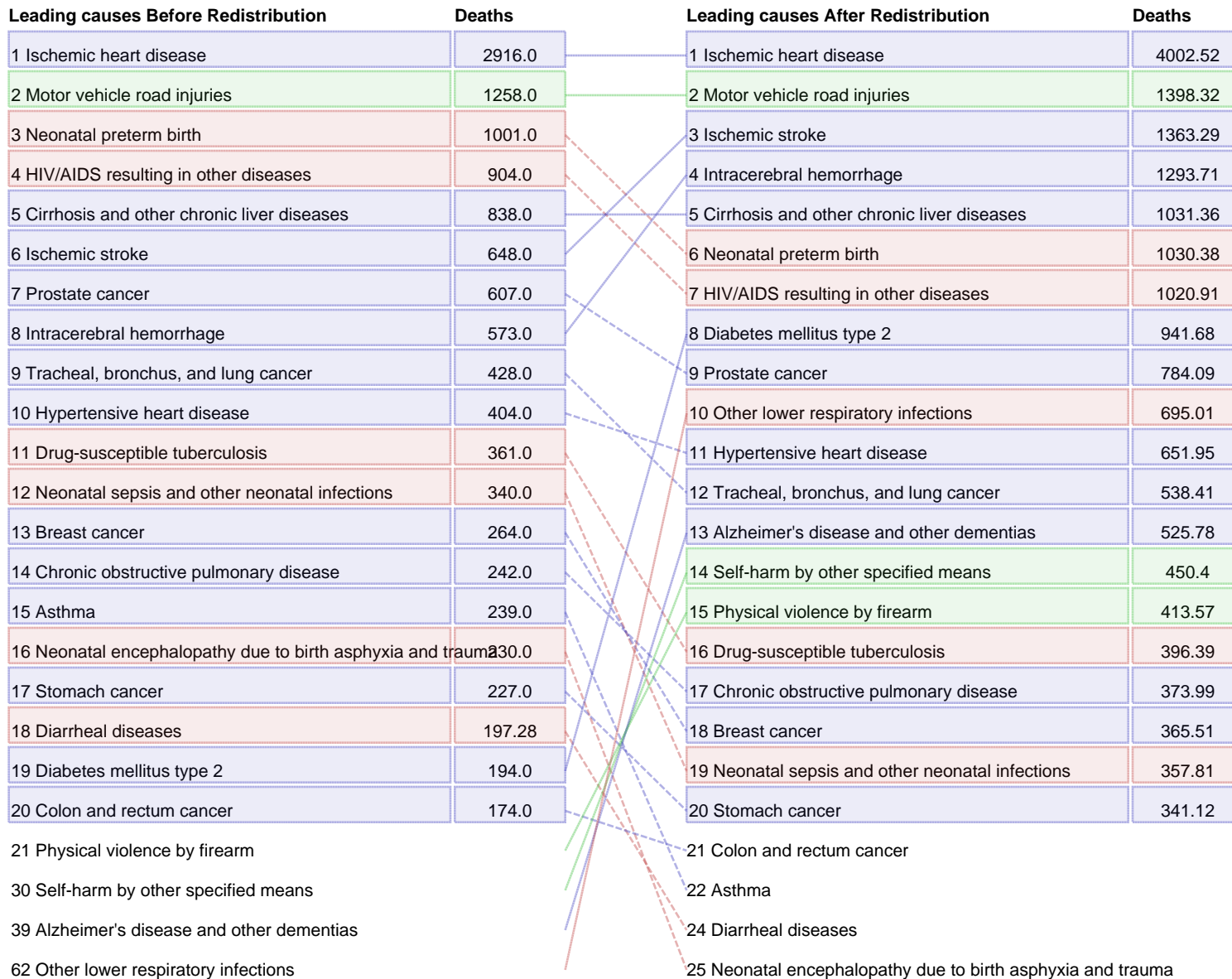
### Leading causes of death before and after garbage code redistribution: Denmark - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Dominican Republic - 2002.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



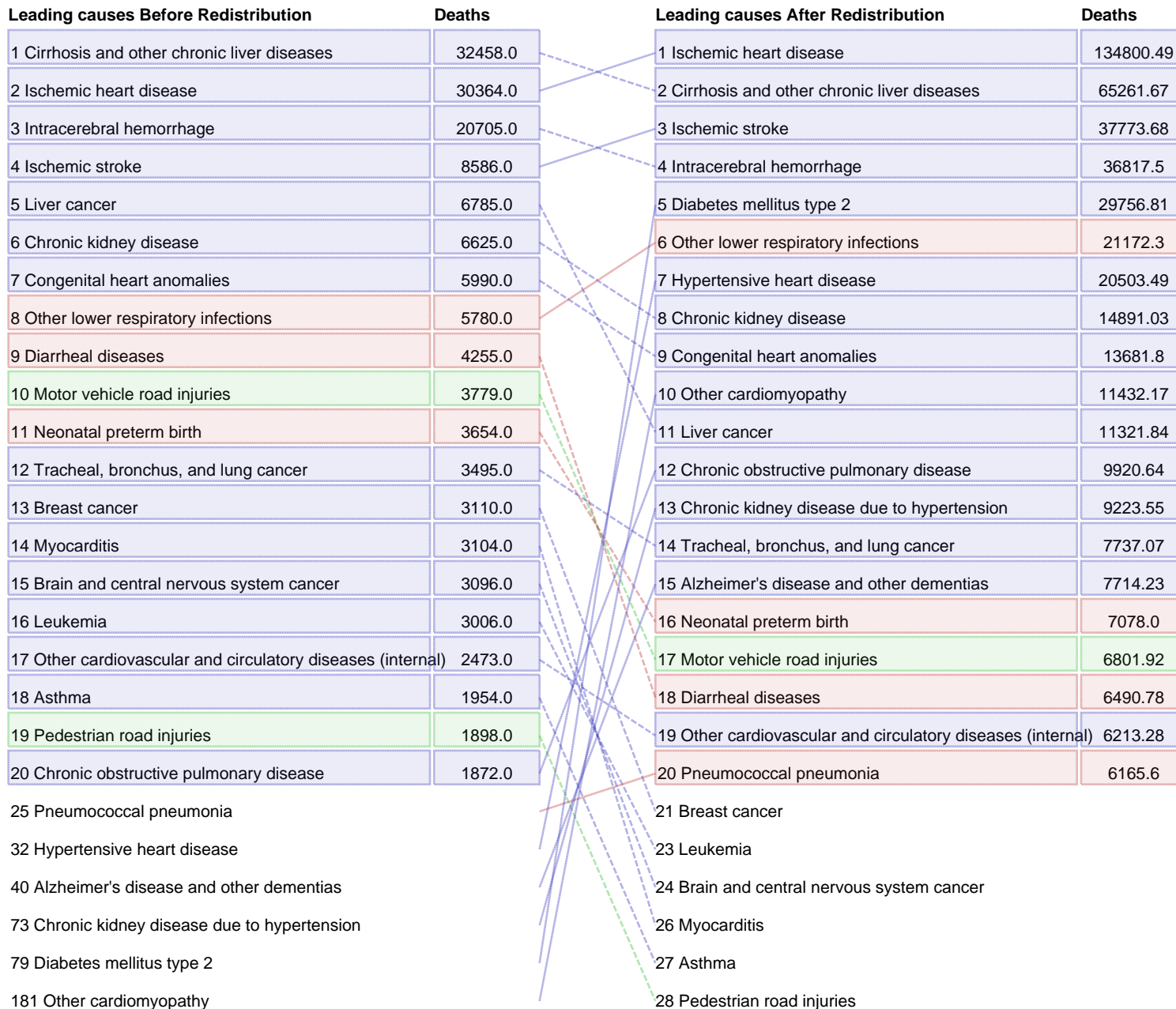
# Leading causes of death before and after garbage code redistribution: Ecuador - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



## Leading causes of death before and after garbage code redistribution: Egypt - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Spain - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Estonia - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.

Leading causes Before Redistribution	Deaths	Leading causes After Redistribution	Deaths
1 Ischemic heart disease	3175.0	1 Ischemic heart disease	3410.2
2 Hypertensive heart disease	2246.0	2 Hypertensive heart disease	2419.55
3 Tracheal, bronchus, and lung cancer	672.0	3 Tracheal, bronchus, and lung cancer	729.83
4 Ischemic stroke	516.0	4 Alzheimer's disease and other dementias	615.97
5 Chronic kidney disease due to hypertension	484.0	5 Ischemic stroke	611.61
6 Colon and rectum cancer	471.0	6 Colon and rectum cancer	515.94
7 Cirrhosis and other chronic liver diseases	321.0	7 Chronic kidney disease due to hypertension	501.49
8 Prostate cancer	292.0	8 Cirrhosis and other chronic liver diseases	342.46
9 Stomach cancer	276.0	9 Prostate cancer	314.72
10 Breast cancer	243.0	10 Stomach cancer	303.81
11 Pancreatic cancer	238.0	11 Breast cancer	266.43
12 Chronic obstructive pulmonary disease	193.0	12 Pancreatic cancer	257.14
13 Other lower respiratory infections	180.0	13 Other lower respiratory infections	215.11
14 Self-harm by other specified means	178.0	14 Chronic obstructive pulmonary disease	207.32
15 Alcohol use disorders	175.0	15 Self-harm by other specified means	199.47
16 Kidney cancer	164.0	16 Alcohol use disorders	186.12
17 Alzheimer's disease and other dementias	139.0	17 Kidney cancer	174.99
18 Intracerebral hemorrhage	136.0	18 Intracerebral hemorrhage	168.37
19 Leukemia	130.0	19 Atrial fibrillation and flutter	142.24
20 Atrial fibrillation and flutter	125.0	20 Leukemia	136.1

### Leading causes of death before and after garbage code redistribution: Finland - 2015.

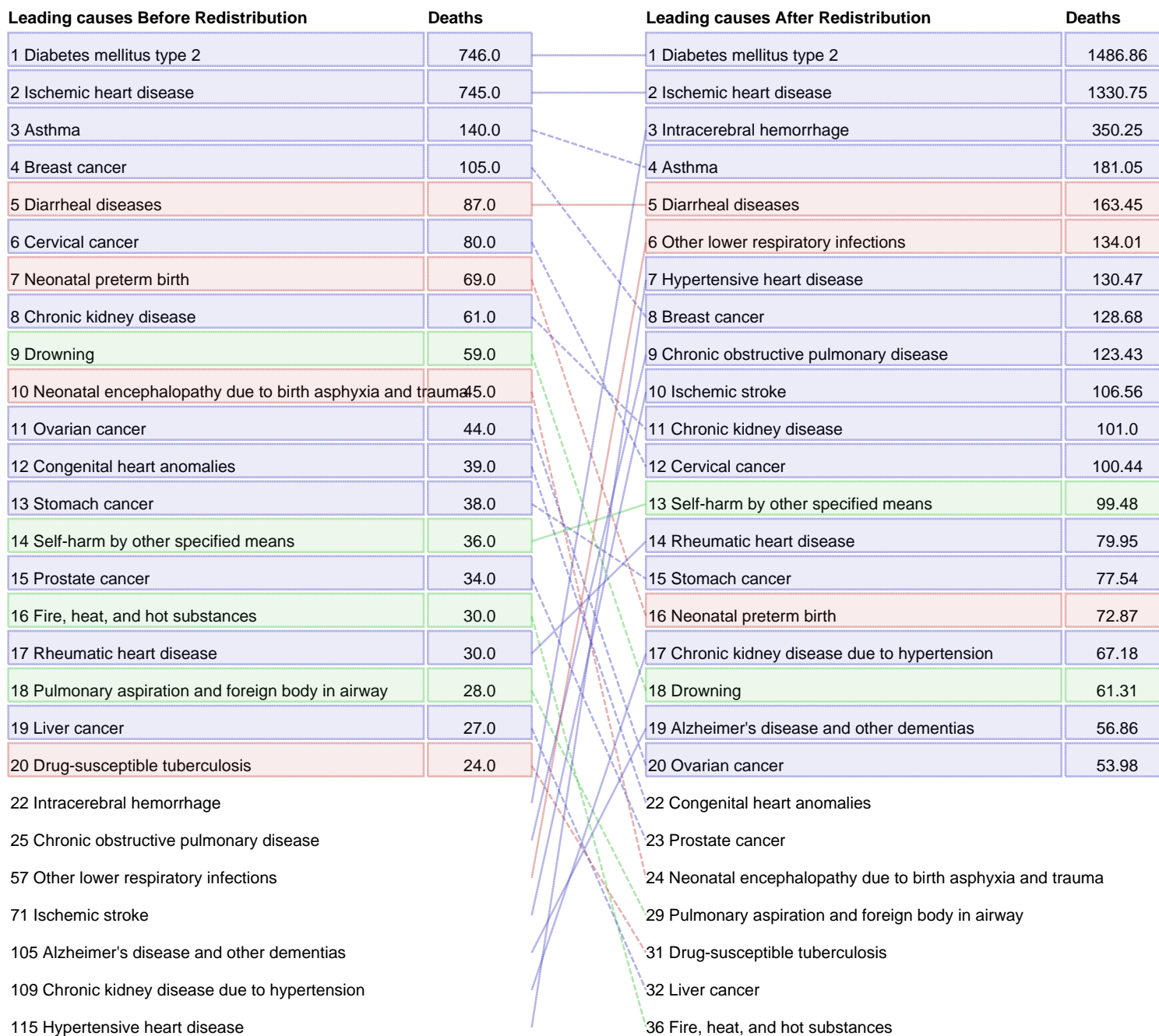
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.

Leading causes Before Redistribution	Deaths	Leading causes After Redistribution	Deaths
1 Ischemic heart disease	10209.0	1 Ischemic heart disease	12346.65
2 Alzheimer's disease and other dementias	8786.0	2 Alzheimer's disease and other dementias	4160.23
3 Ischemic stroke	2911.0	3 Ischemic stroke	3361.32
4 Tracheal, bronchus, and lung cancer	2255.0	4 Tracheal, bronchus, and lung cancer	2540.49
5 Hypertensive heart disease	1357.0	5 Hypertensive heart disease	1695.31
6 Colon and rectum cancer	1222.0	6 Colon and rectum cancer	1522.59
7 Chronic obstructive pulmonary disease	1205.0	7 Chronic obstructive pulmonary disease	1377.13
8 Falls	1143.0	8 Pancreatic cancer	1368.4
9 Pancreatic cancer	1139.0	9 Falls	1261.46
10 Cirrhosis and other chronic liver diseases	1069.0	10 Cirrhosis and other chronic liver diseases	1170.29
11 Intracerebral hemorrhage	925.0	11 Prostate cancer	1095.74
12 Prostate cancer	899.0	12 Intracerebral hemorrhage	1049.15
13 Breast cancer	824.0	13 Breast cancer	995.42
14 Parkinson's disease	681.0	14 Atrial fibrillation and flutter	746.99
15 Self-harm by other specified means	608.0	15 Parkinson's disease	700.12
16 Alcohol use disorders	551.0	16 Self-harm by other specified means	683.2
17 Non-rheumatic calcific aortic valve disease	538.0	17 Non-rheumatic calcific aortic valve disease	662.13
18 Aortic aneurysm	457.0	18 Stomach cancer	618.67
19 Lower extremity peripheral arterial disease	455.0	19 Other non-Hodgkin lymphoma	583.42
20 Stomach cancer	442.0	20 Alcohol use disorders	575.13
21 Other non-Hodgkin lymphoma		21 Lower extremity peripheral arterial disease	
34 Atrial fibrillation and flutter		22 Aortic aneurysm	



### Leading causes of death before and after garbage code redistribution: Fiji - 2008.

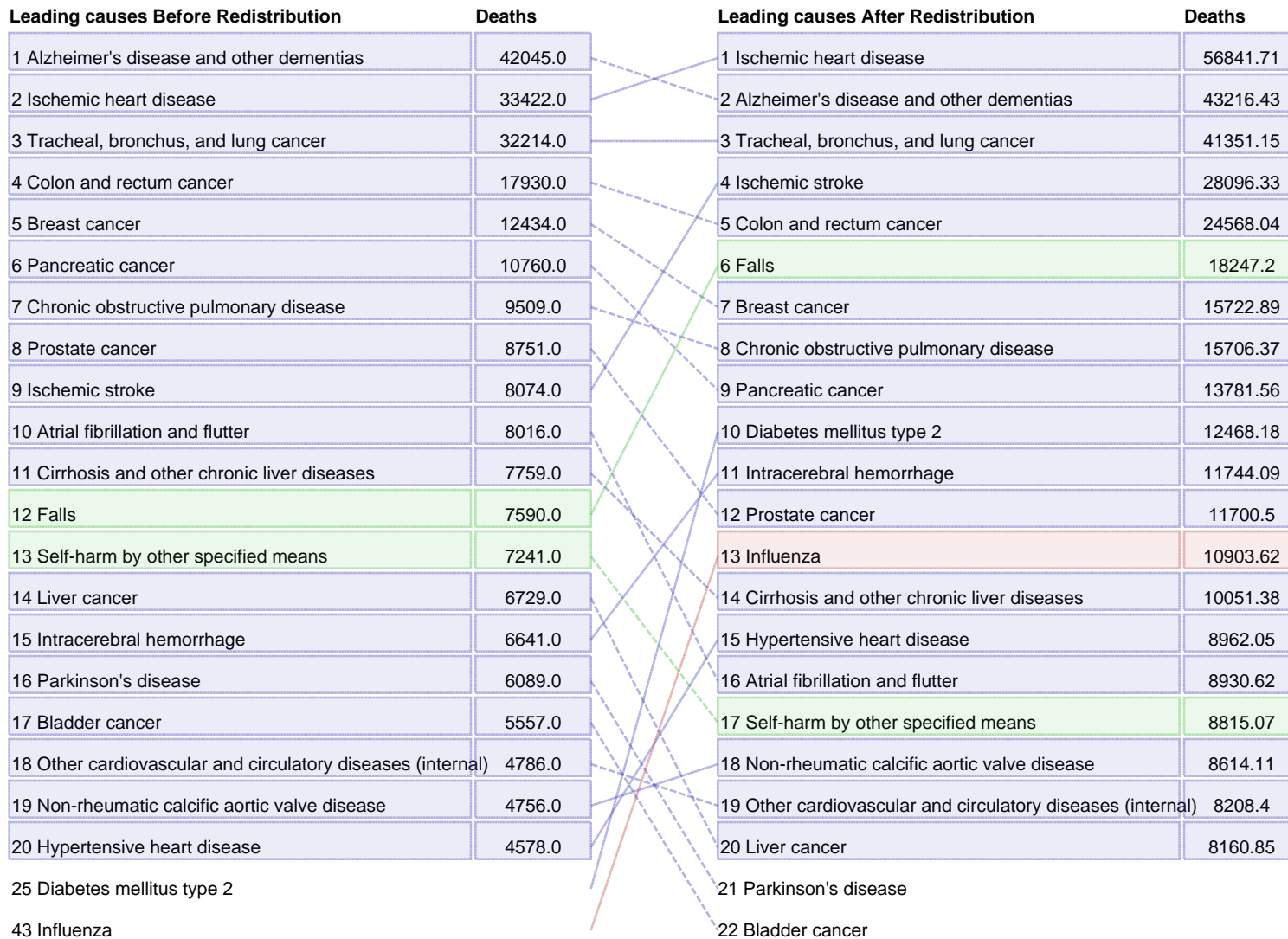
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





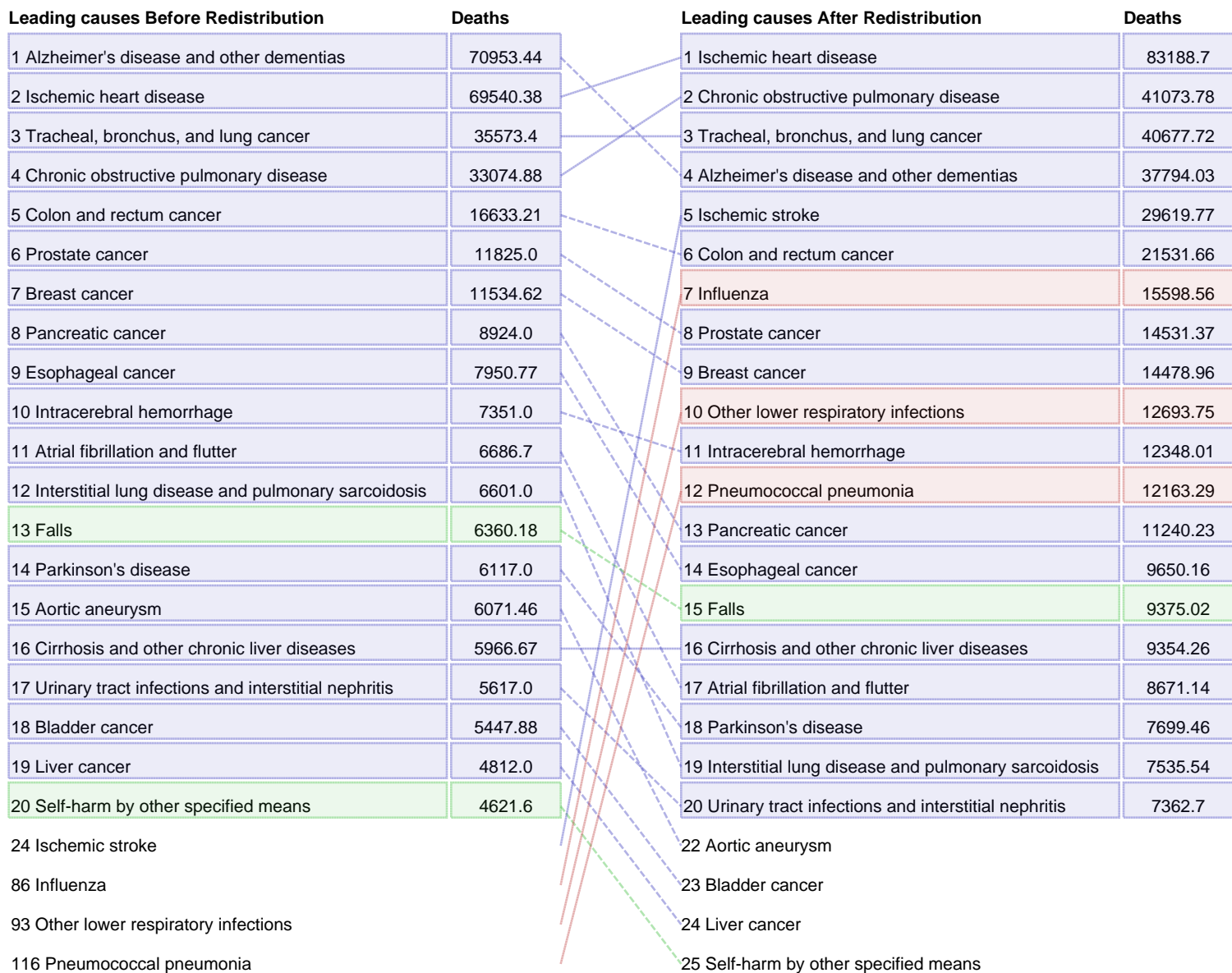
### Leading causes of death before and after garbage code redistribution: France - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: United Kingdom - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



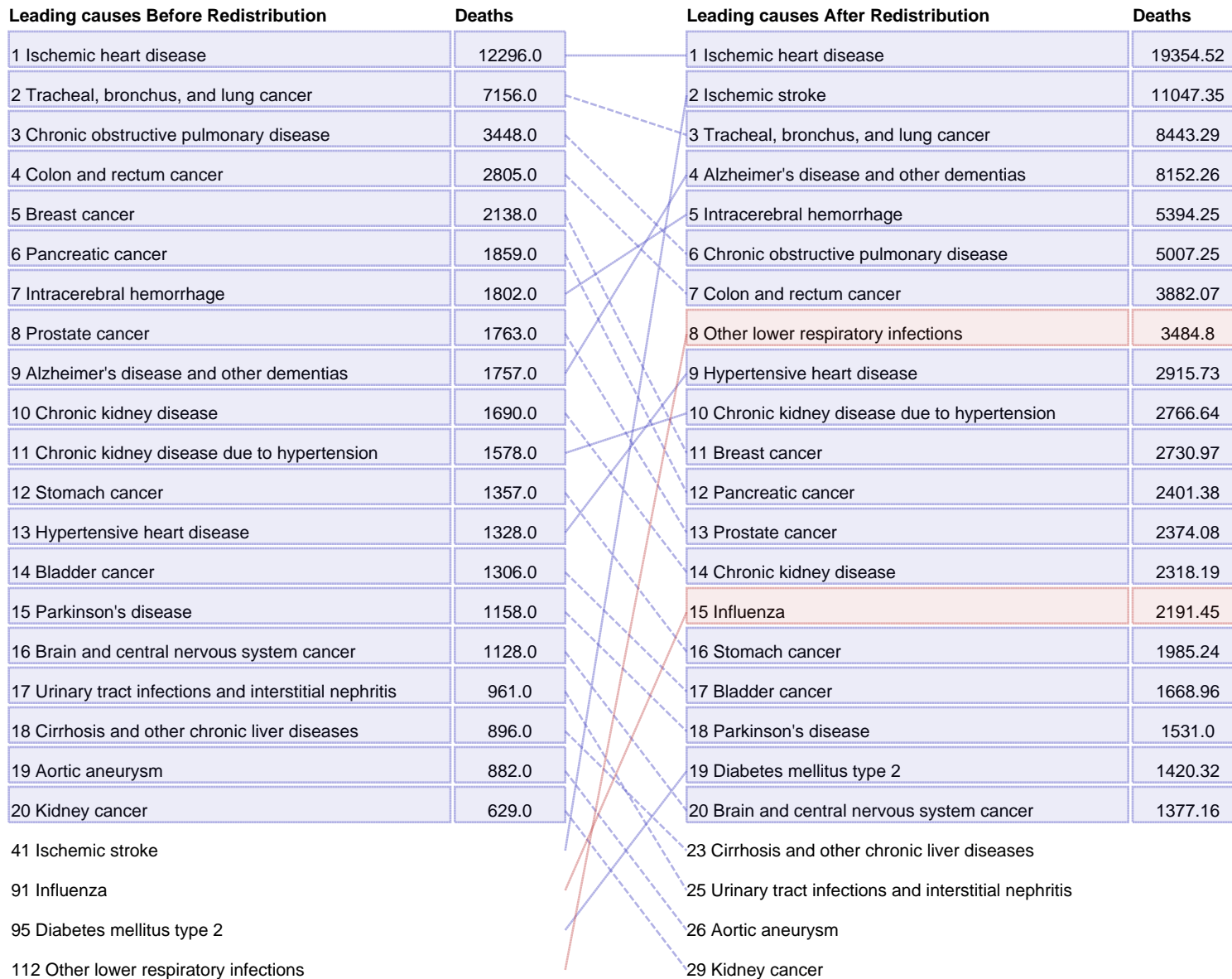
### Leading causes of death before and after garbage code redistribution: Georgia - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



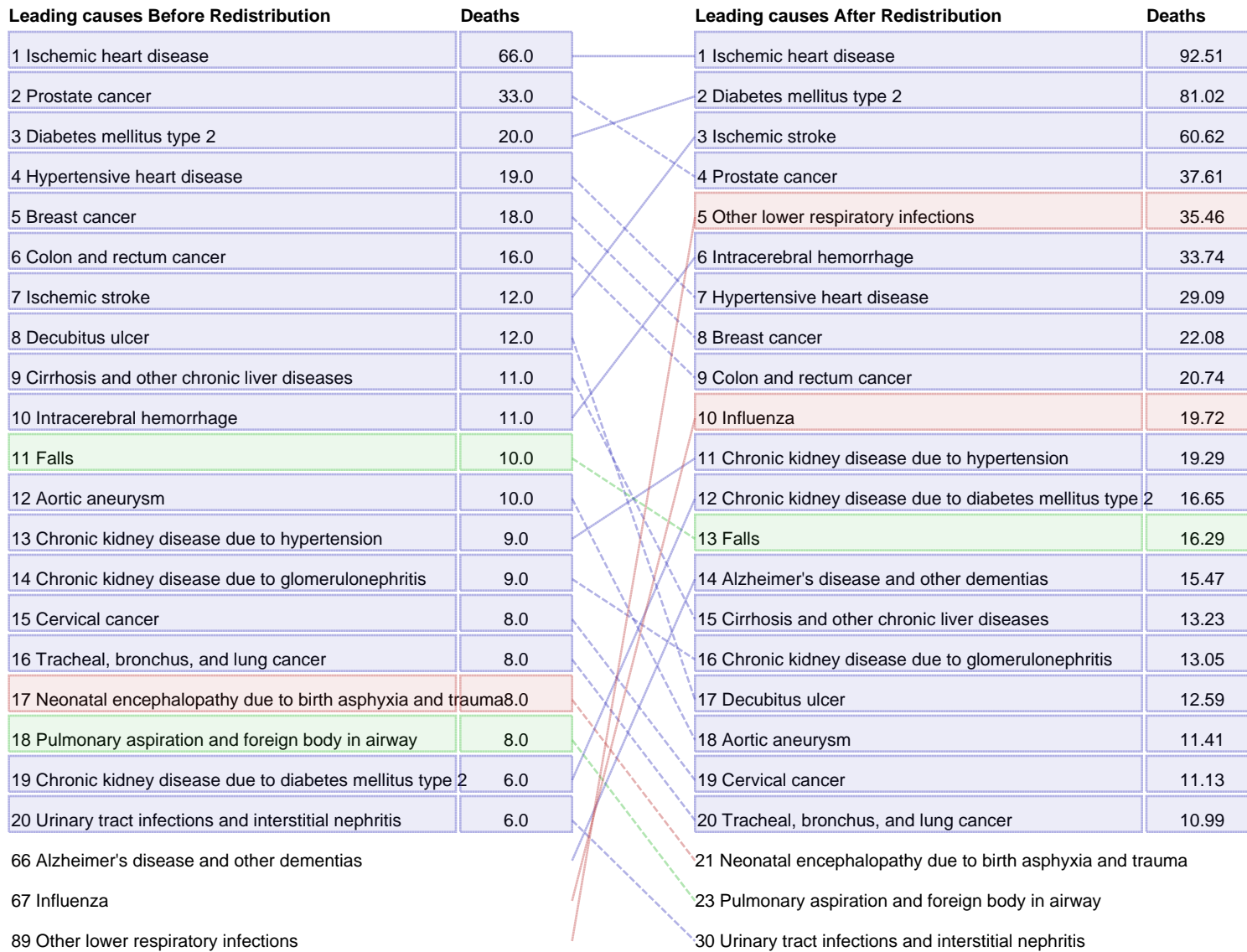
# Leading causes of death before and after garbage code redistribution: Greece - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



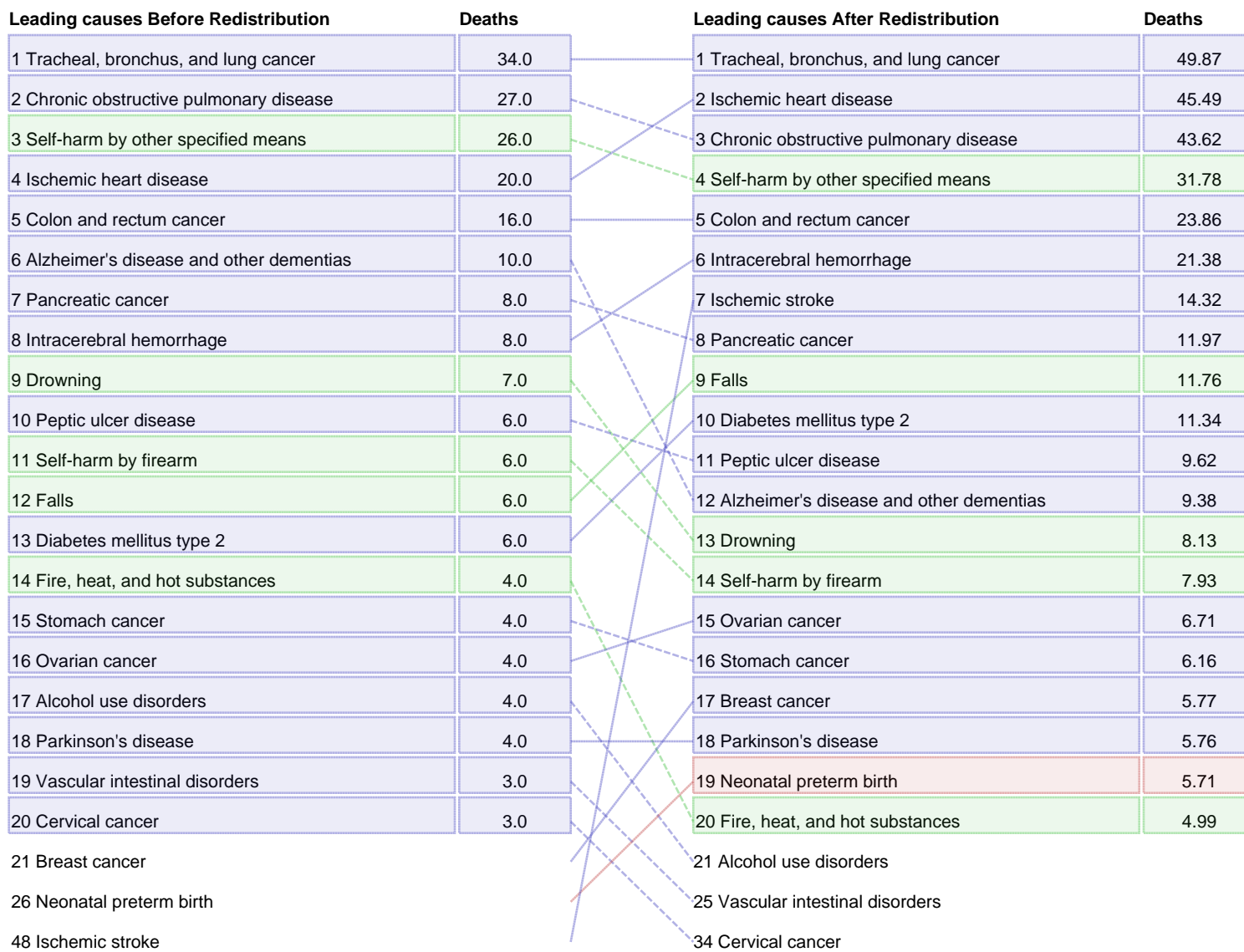
# Leading causes of death before and after garbage code redistribution: Grenada - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



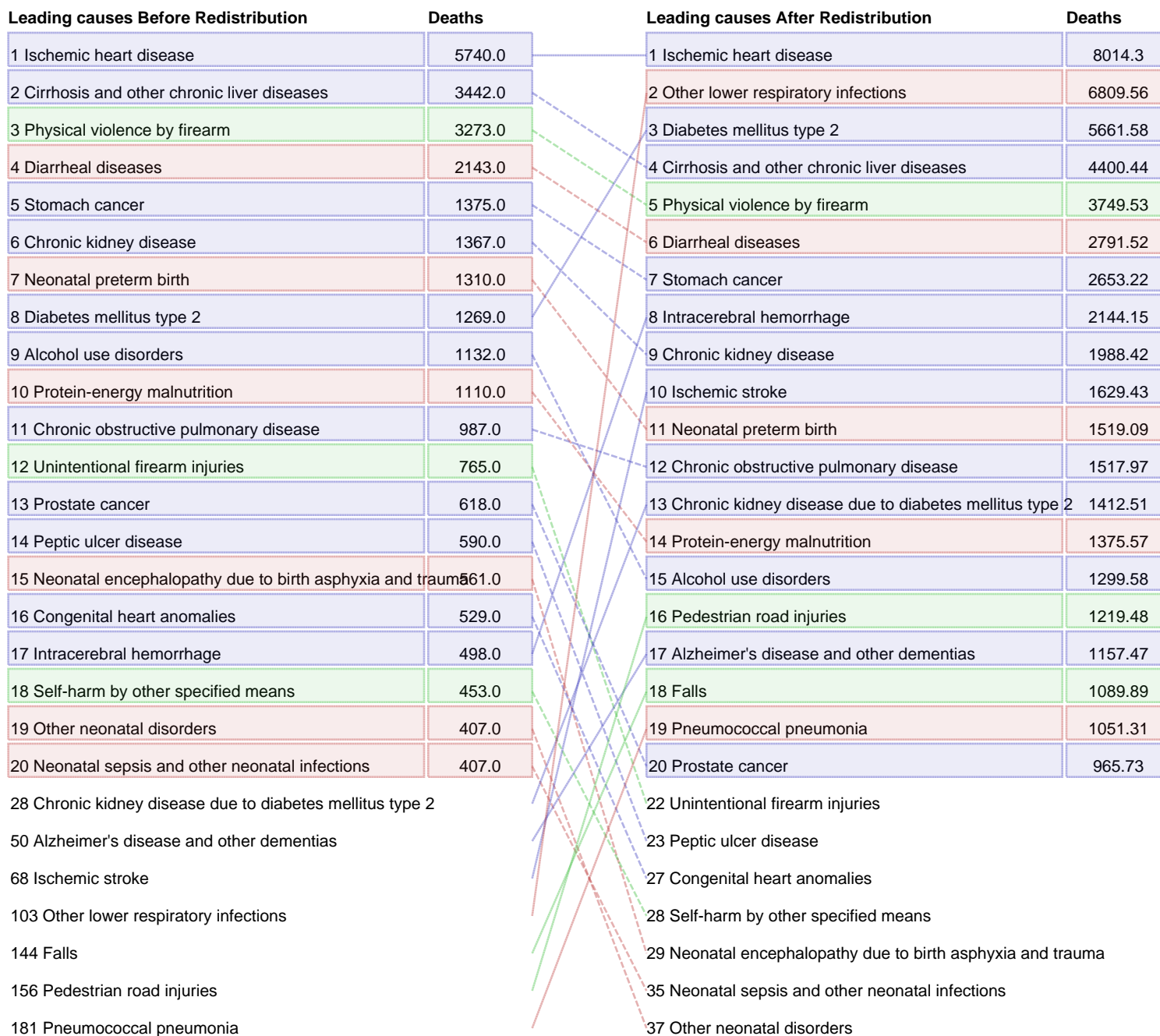
### Leading causes of death before and after garbage code redistribution: Greenland - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



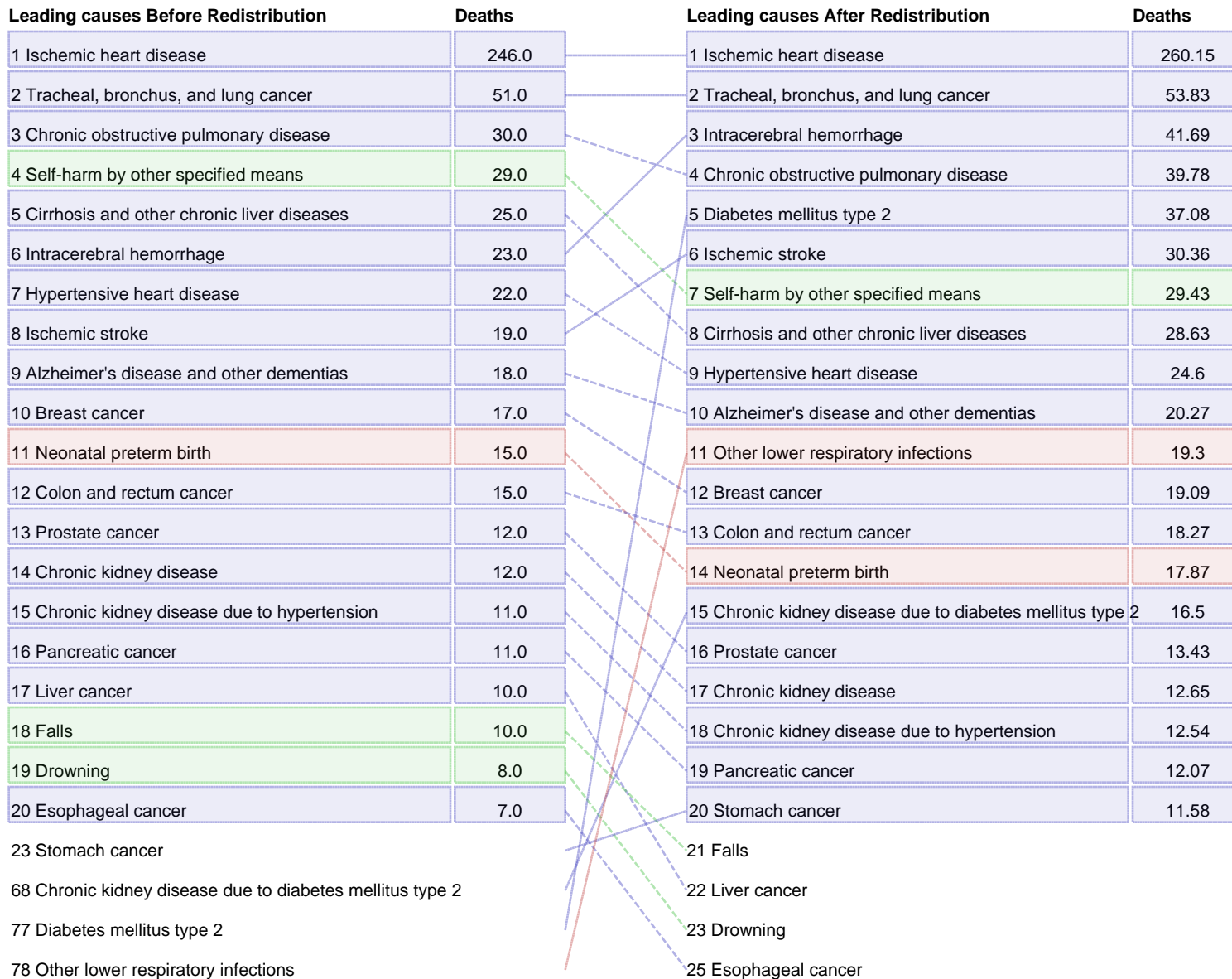
### Leading causes of death before and after garbage code redistribution: Guatemala - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Guam - 2015.

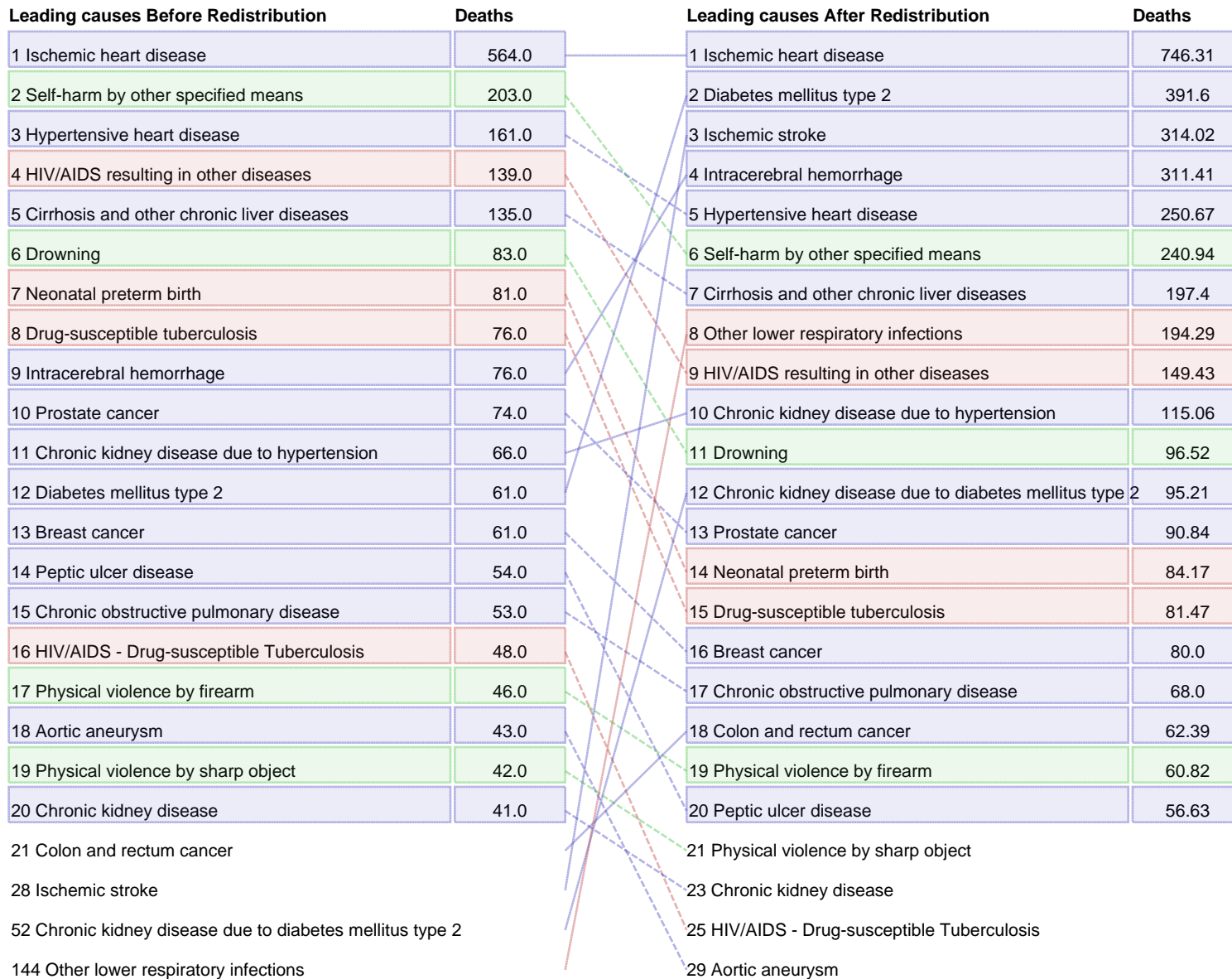
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





### Leading causes of death before and after garbage code redistribution: Guyana - 2014.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



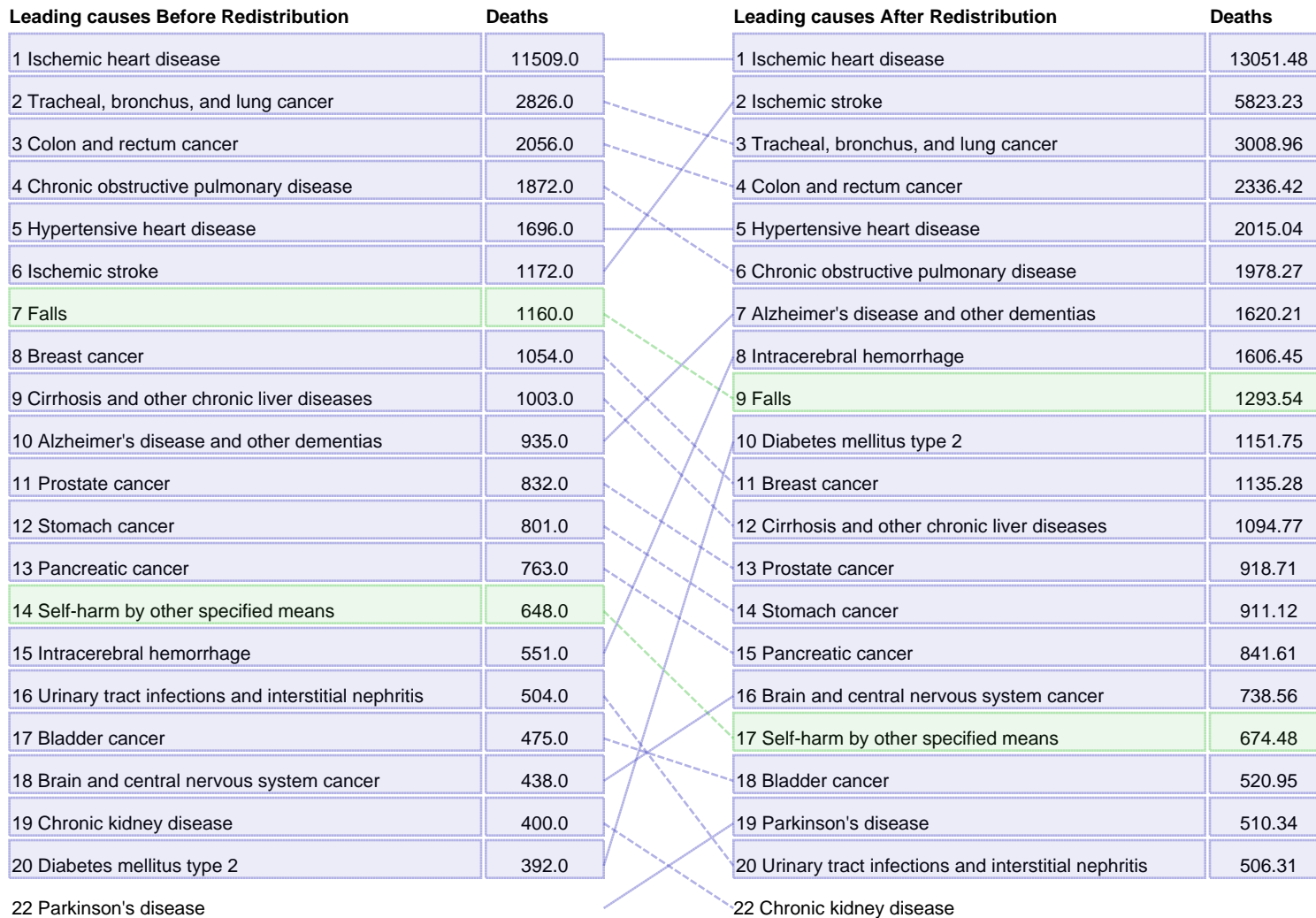
### Leading causes of death before and after garbage code redistribution: Honduras - 2013.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



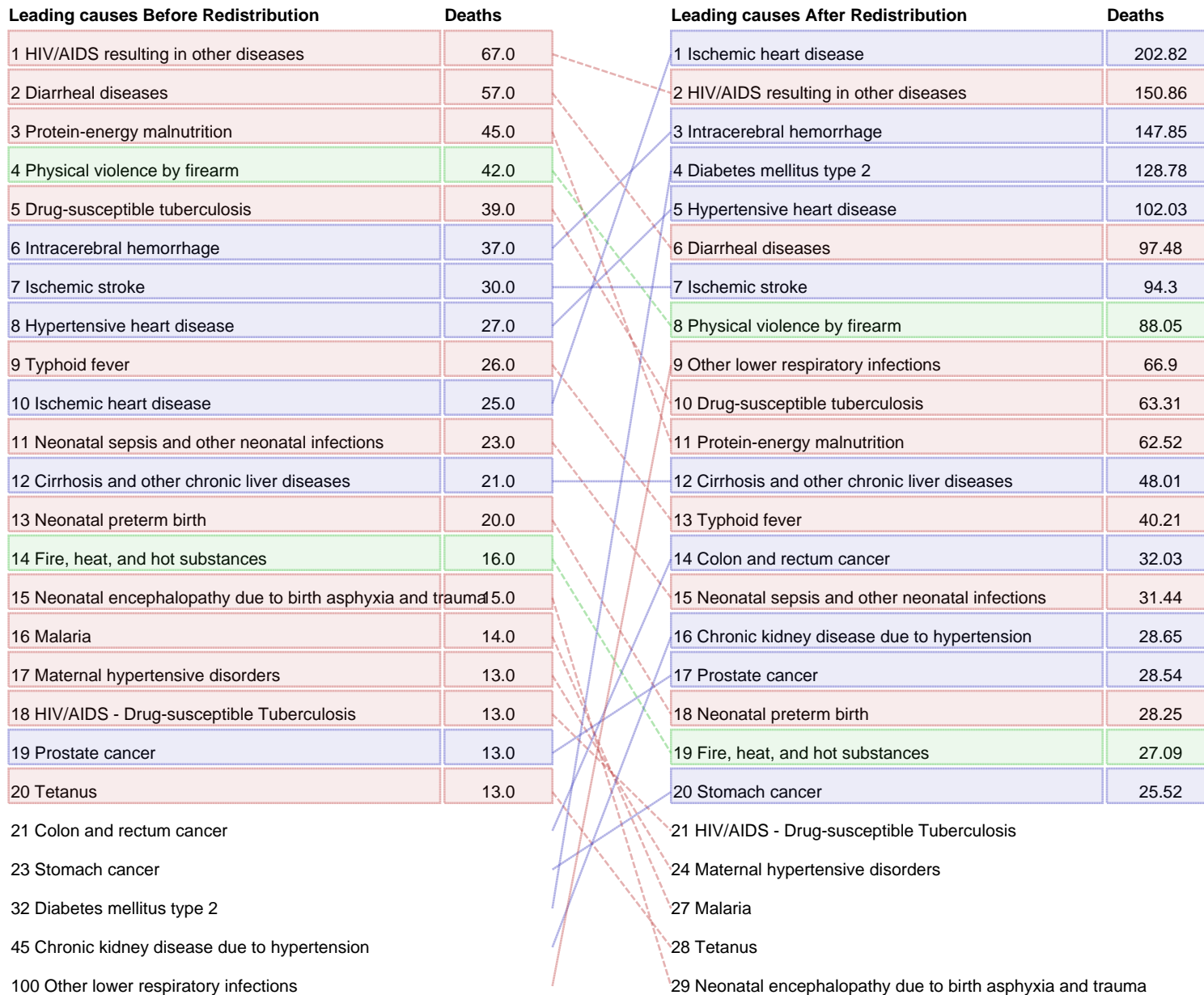
### Leading causes of death before and after garbage code redistribution: Croatia - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



## Leading causes of death before and after garbage code redistribution: Haiti - 2004.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



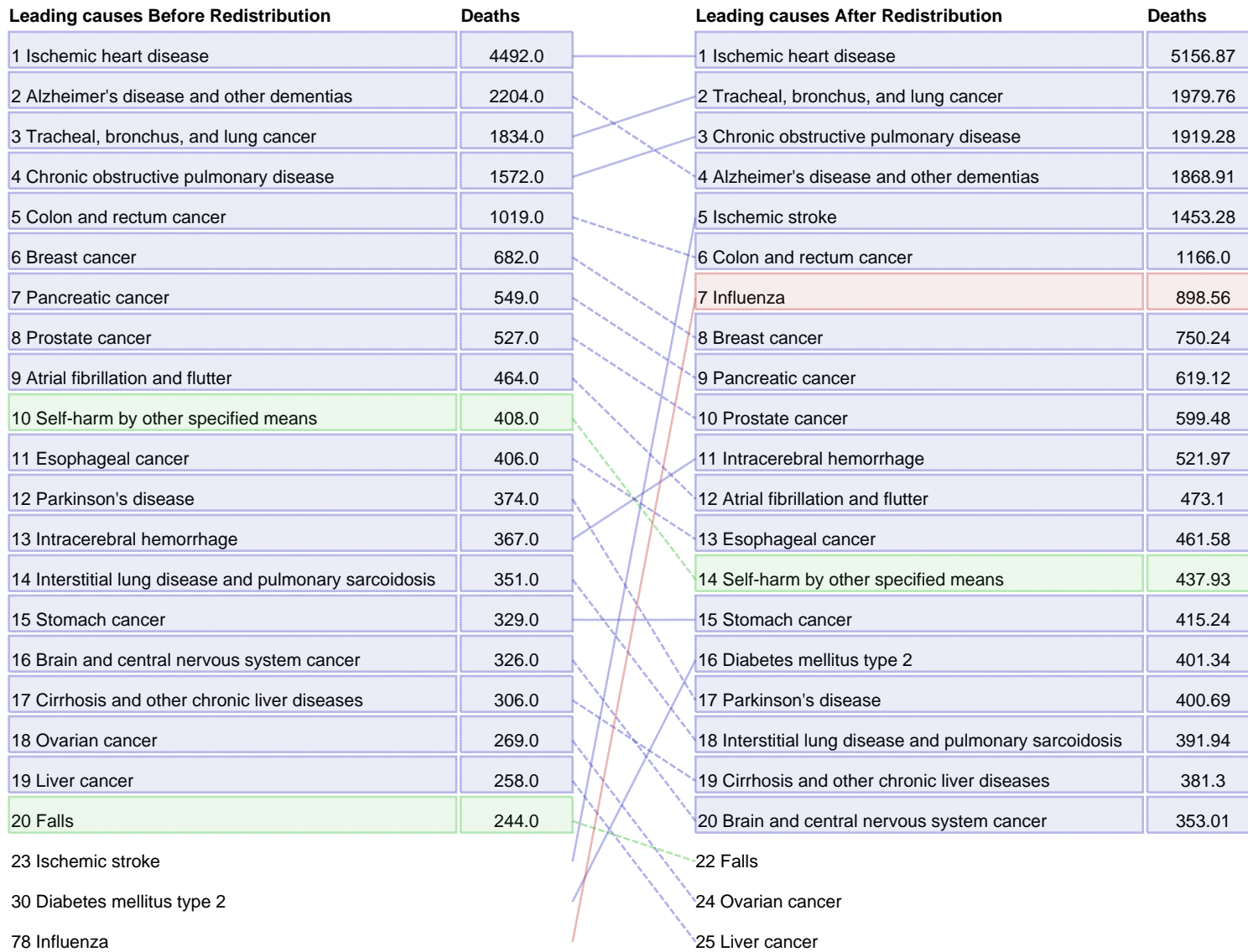
### Leading causes of death before and after garbage code redistribution: Hungary - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.

Leading causes Before Redistribution	Deaths	Leading causes After Redistribution	Deaths
1 Ischemic heart disease	33006.0	1 Ischemic heart disease	36727.67
2 Tracheal, bronchus, and lung cancer	8805.0	2 Ischemic stroke	10582.15
3 Ischemic stroke	8262.0	3 Tracheal, bronchus, and lung cancer	9103.65
4 Chronic obstructive pulmonary disease	6078.0	4 Chronic obstructive pulmonary disease	6580.68
5 Hypertensive heart disease	5611.0	5 Hypertensive heart disease	6483.48
6 Colon and rectum cancer	5045.0	6 Colon and rectum cancer	5485.16
7 Alzheimer's disease and other dementias	3775.0	7 Alzheimer's disease and other dementias	4150.4
8 Cirrhosis and other chronic liver diseases	3165.0	8 Cirrhosis and other chronic liver diseases	3519.81
9 Breast cancer	2254.0	9 Intracerebral hemorrhage	2603.02
10 Intracerebral hemorrhage	2122.0	10 Breast cancer	2390.38
11 Pancreatic cancer	1978.0	11 Diabetes mellitus type 2	2322.89
12 Falls	1838.0	12 Pancreatic cancer	2128.54
13 Self-harm by other specified means	1813.0	13 Falls	1973.59
14 Diabetes mellitus type 2	1688.0	14 Self-harm by other specified means	1947.23
15 Stomach cancer	1504.0	15 Stomach cancer	1630.3
16 Prostate cancer	1269.0	16 Alcoholic cardiomyopathy	1396.17
17 Chronic kidney disease due to hypertension	1220.0	17 Prostate cancer	1395.28
18 Bladder cancer	971.0	18 Chronic kidney disease due to hypertension	1378.41
19 Non-rheumatic calcific aortic valve disease	956.0	19 Other lower respiratory infections	1289.59
20 Kidney cancer	758.0	20 Bladder cancer	1039.03
40 Other lower respiratory infections		21 Non-rheumatic calcific aortic valve disease	
57 Alcoholic cardiomyopathy		24 Kidney cancer	

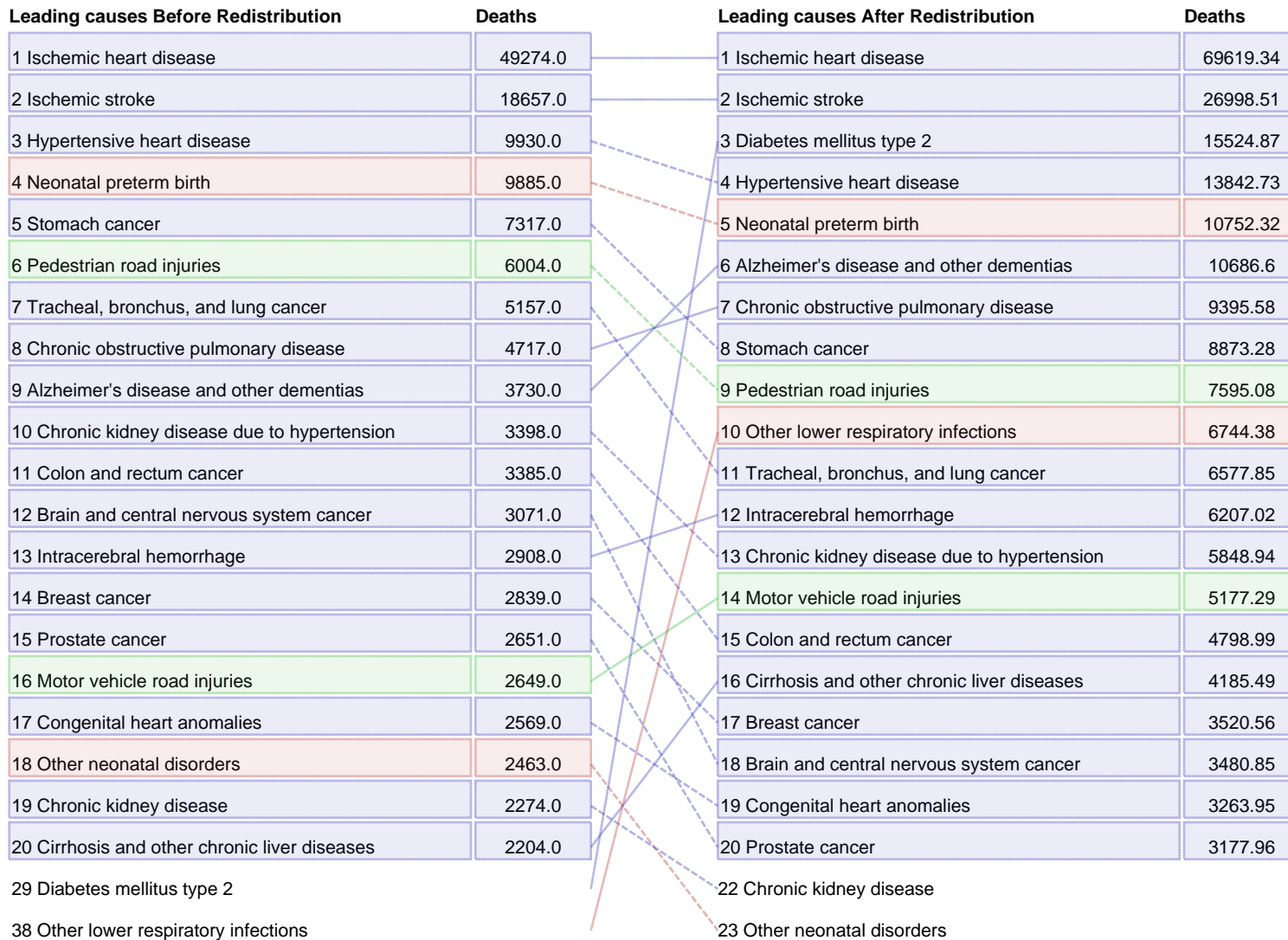
### Leading causes of death before and after garbage code redistribution: Ireland - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



# Leading causes of death before and after garbage code redistribution: Iran (Islamic Republic of) - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





## Leading causes of death before and after garbage code redistribution: Iraq - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green.

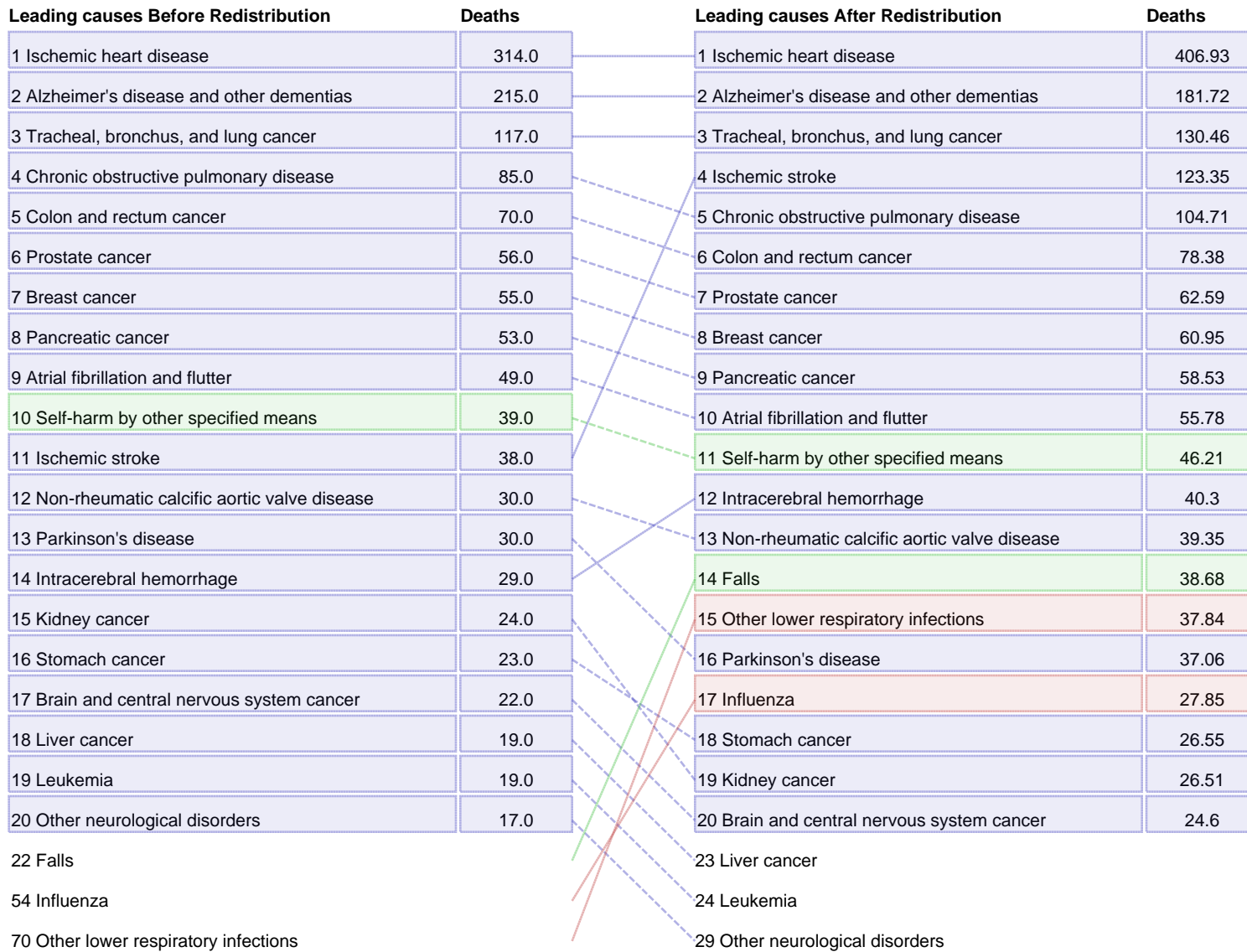
In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





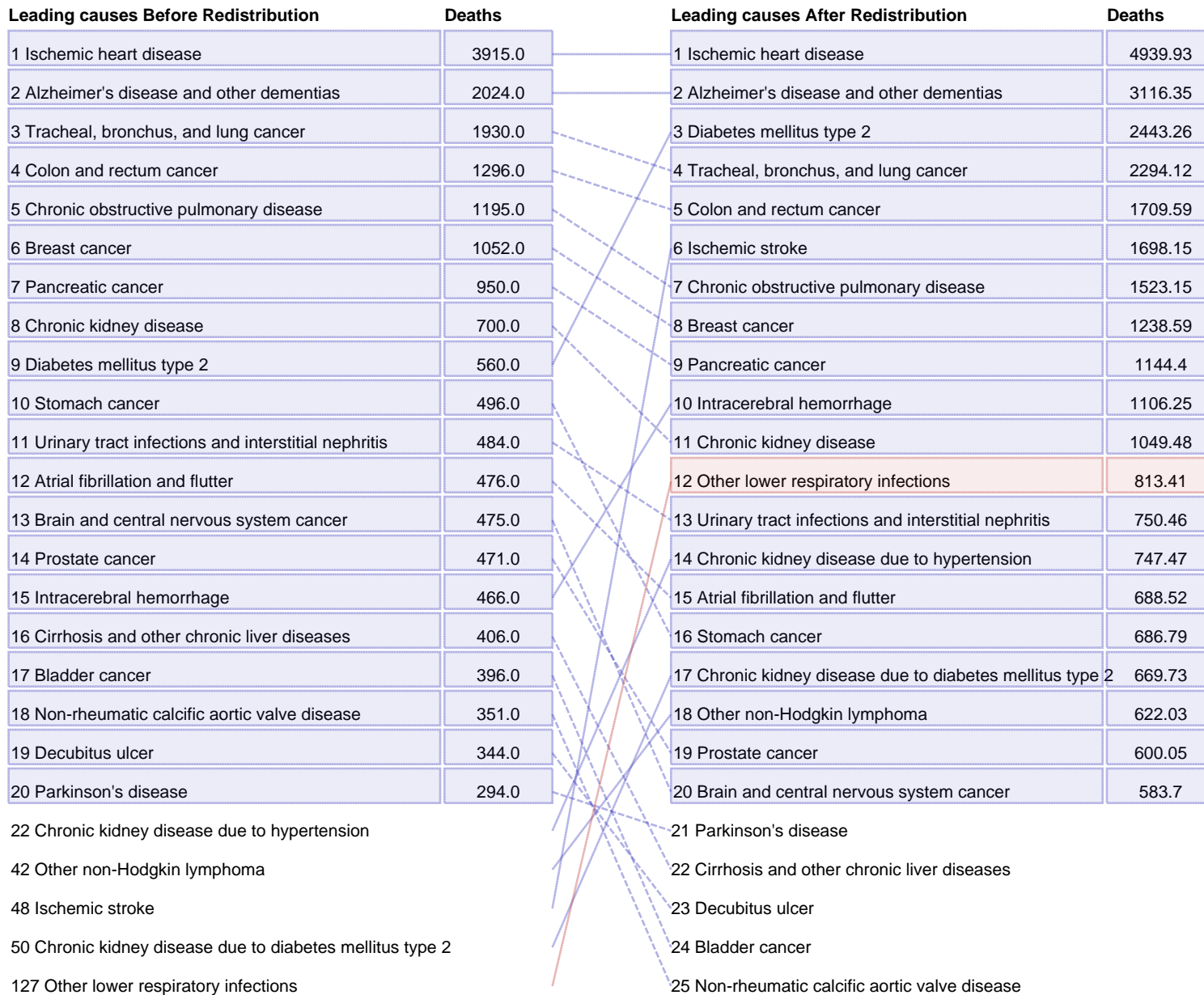
### Leading causes of death before and after garbage code redistribution: Iceland - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



## Leading causes of death before and after garbage code redistribution: Israel - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



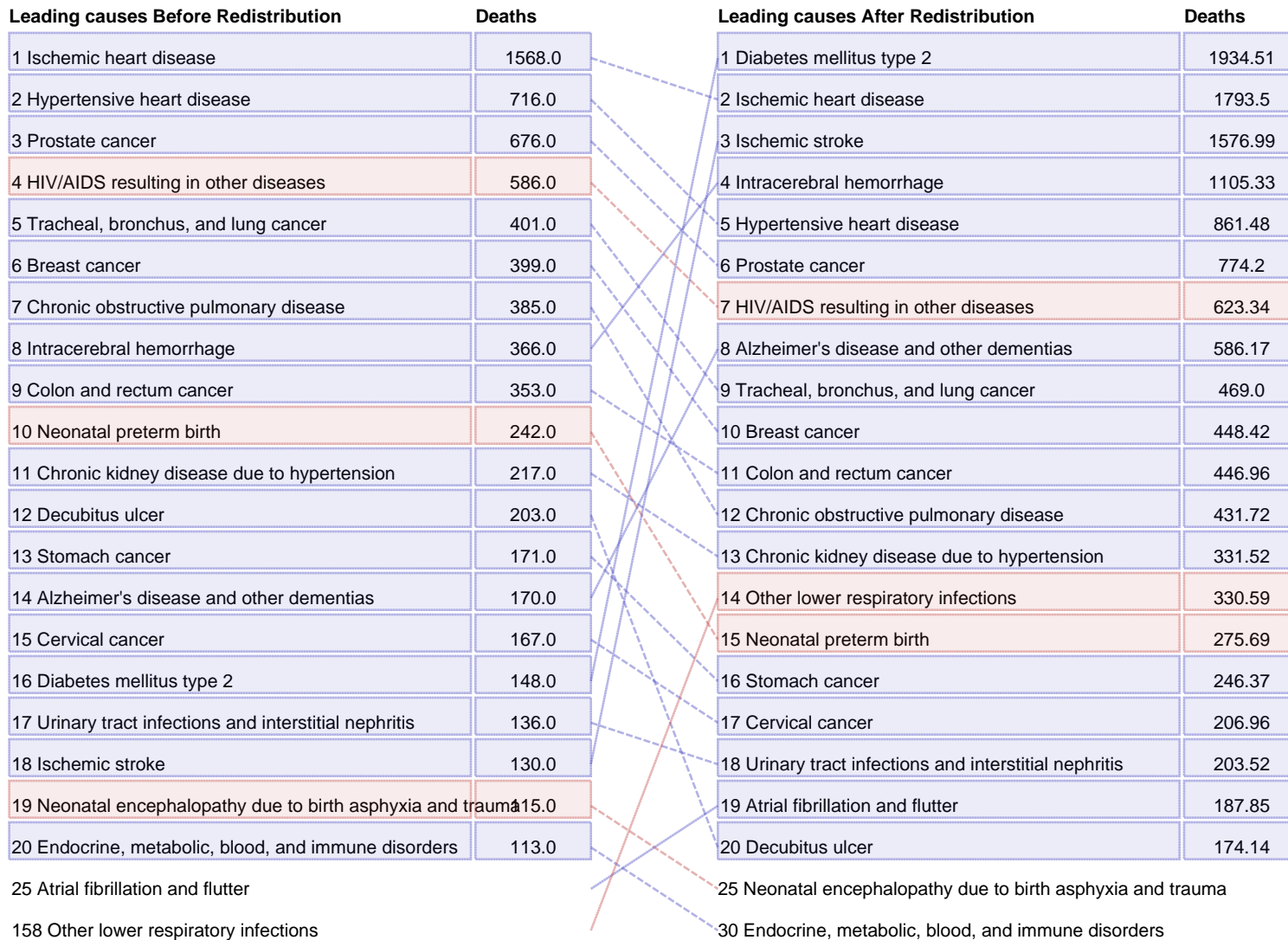
### Leading causes of death before and after garbage code redistribution: Italy - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



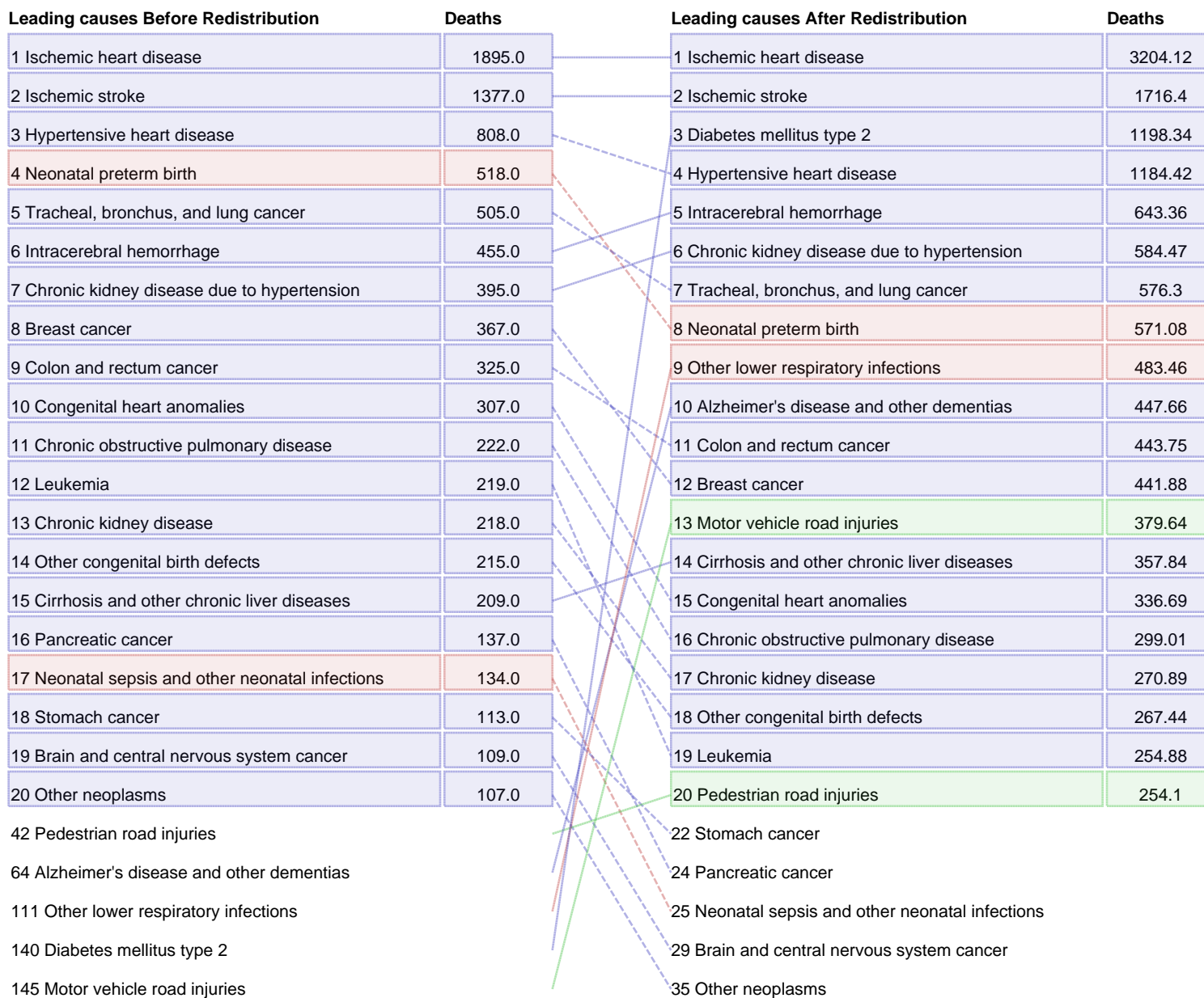
### Leading causes of death before and after garbage code redistribution: Jamaica - 2014.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



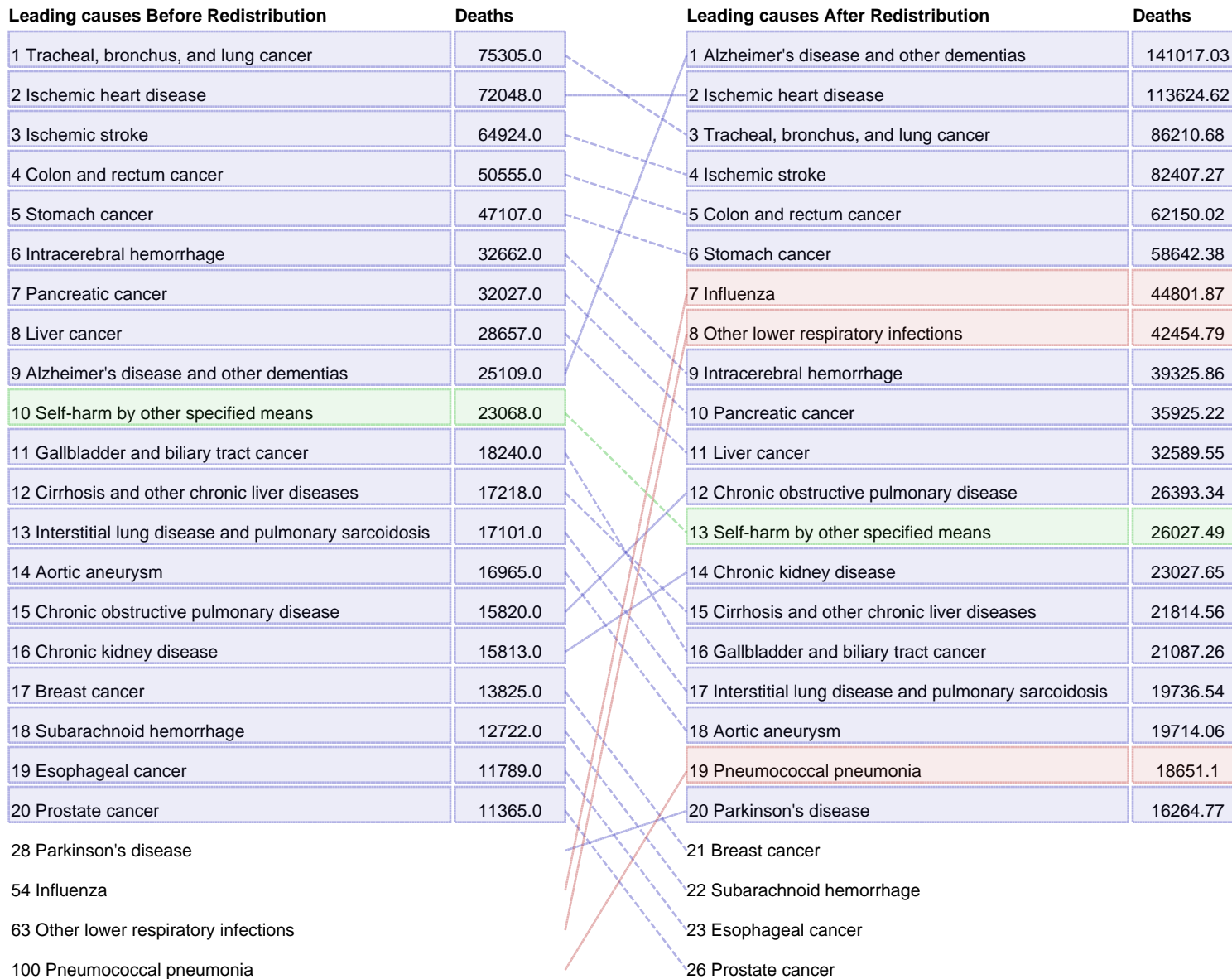
### Leading causes of death before and after garbage code redistribution: Jordan - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



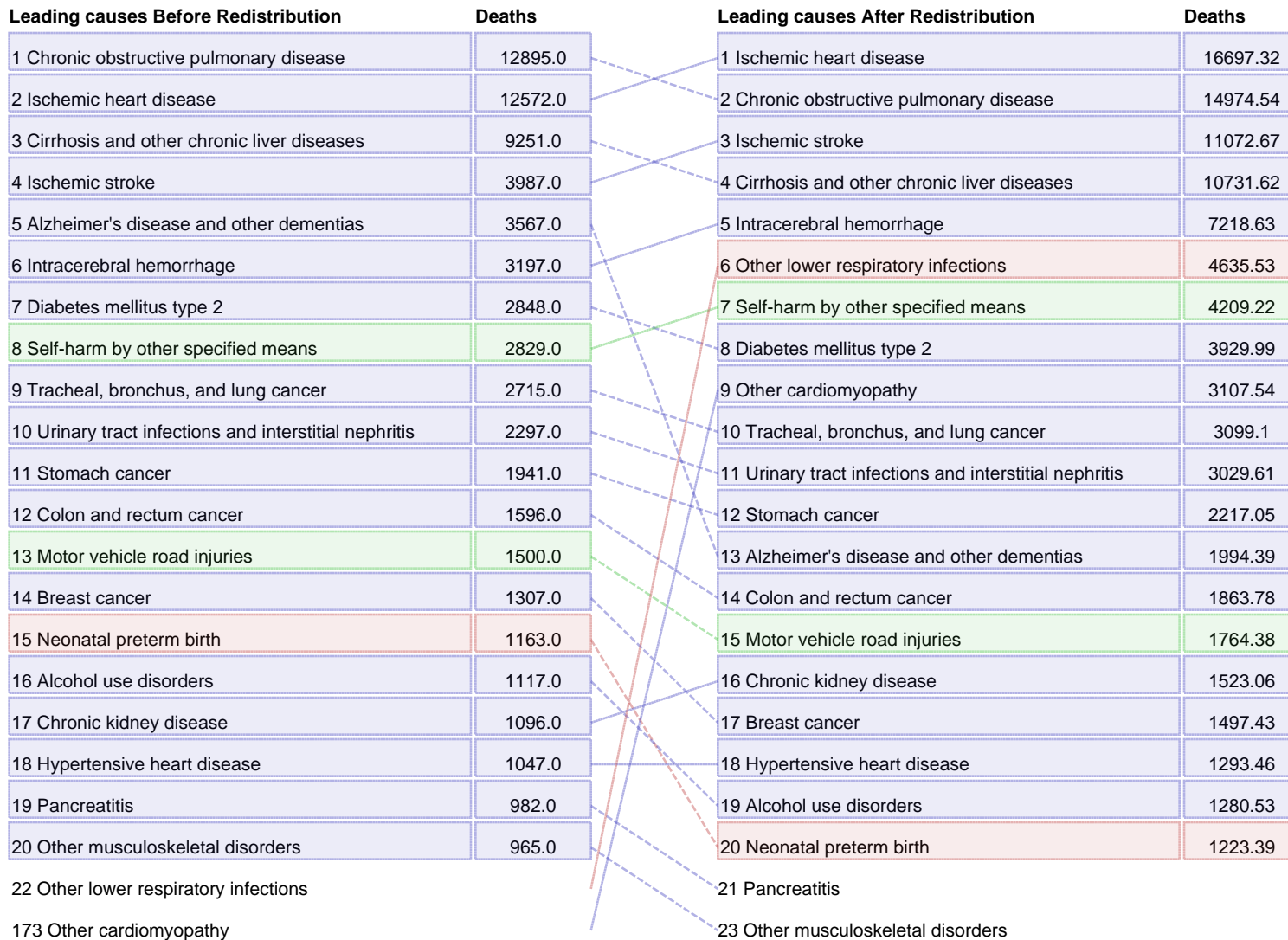
# Leading causes of death before and after garbage code redistribution: Japan - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



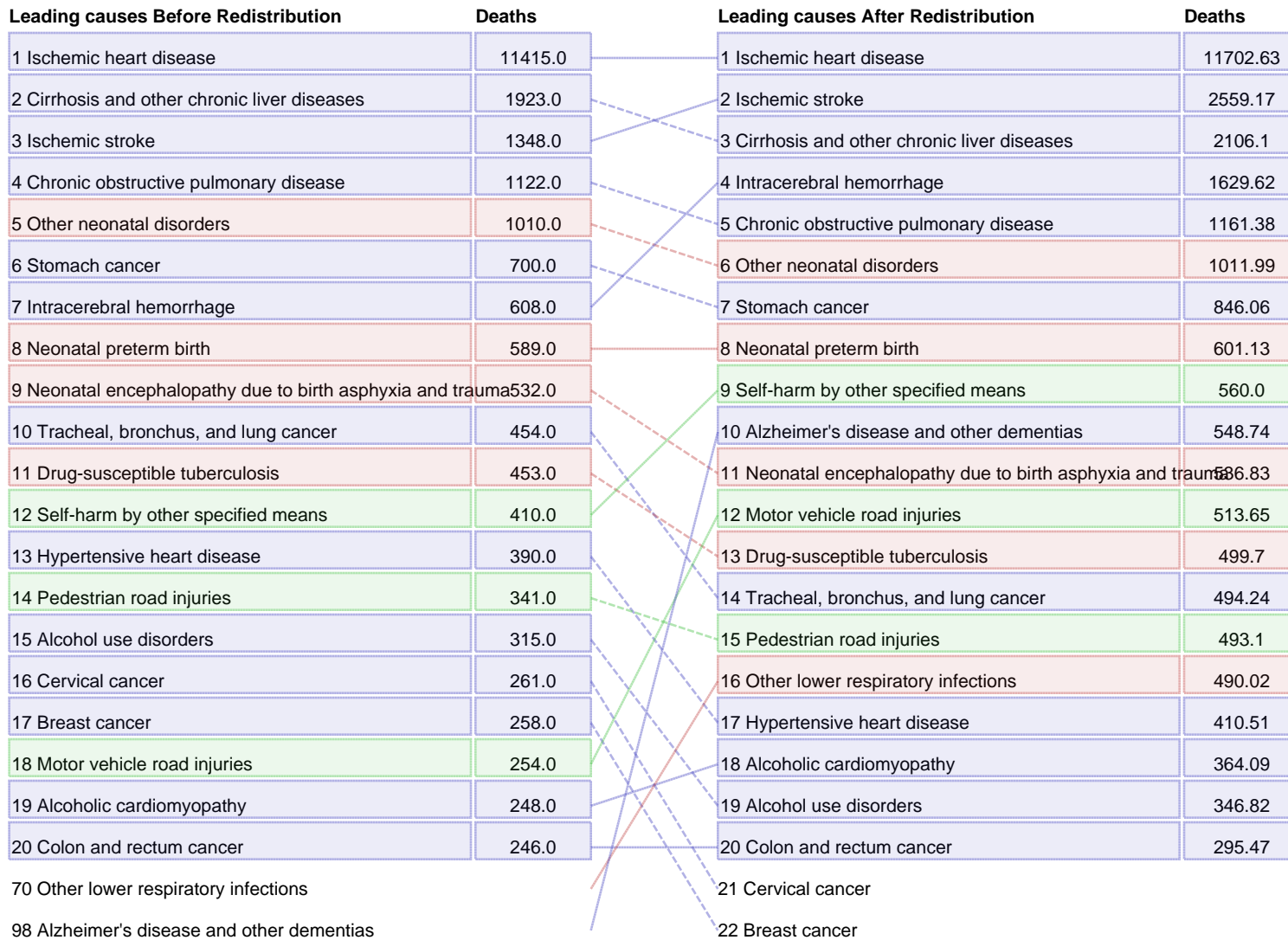
### Leading causes of death before and after garbage code redistribution: Kazakhstan - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Kyrgyzstan - 2015.

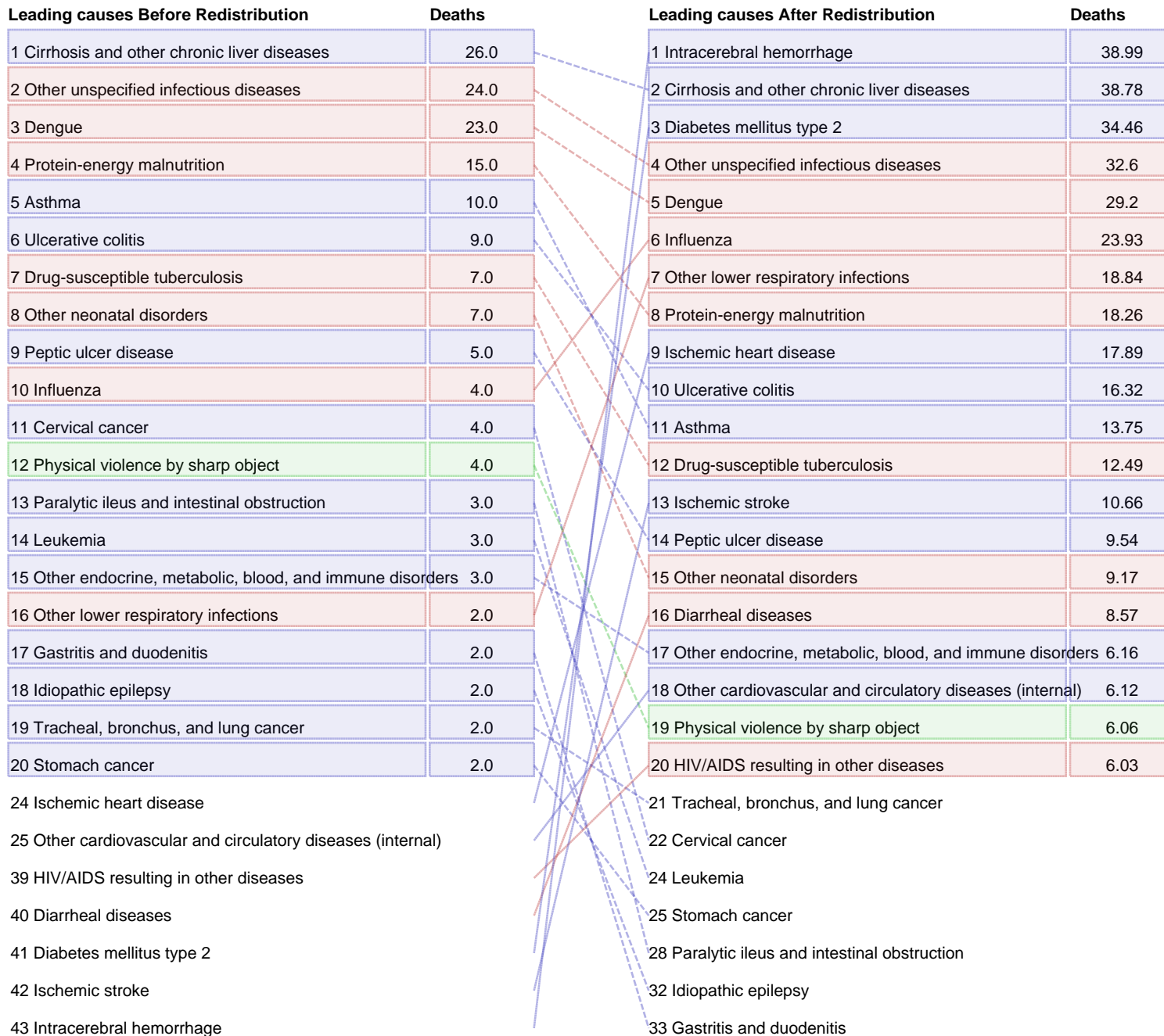
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





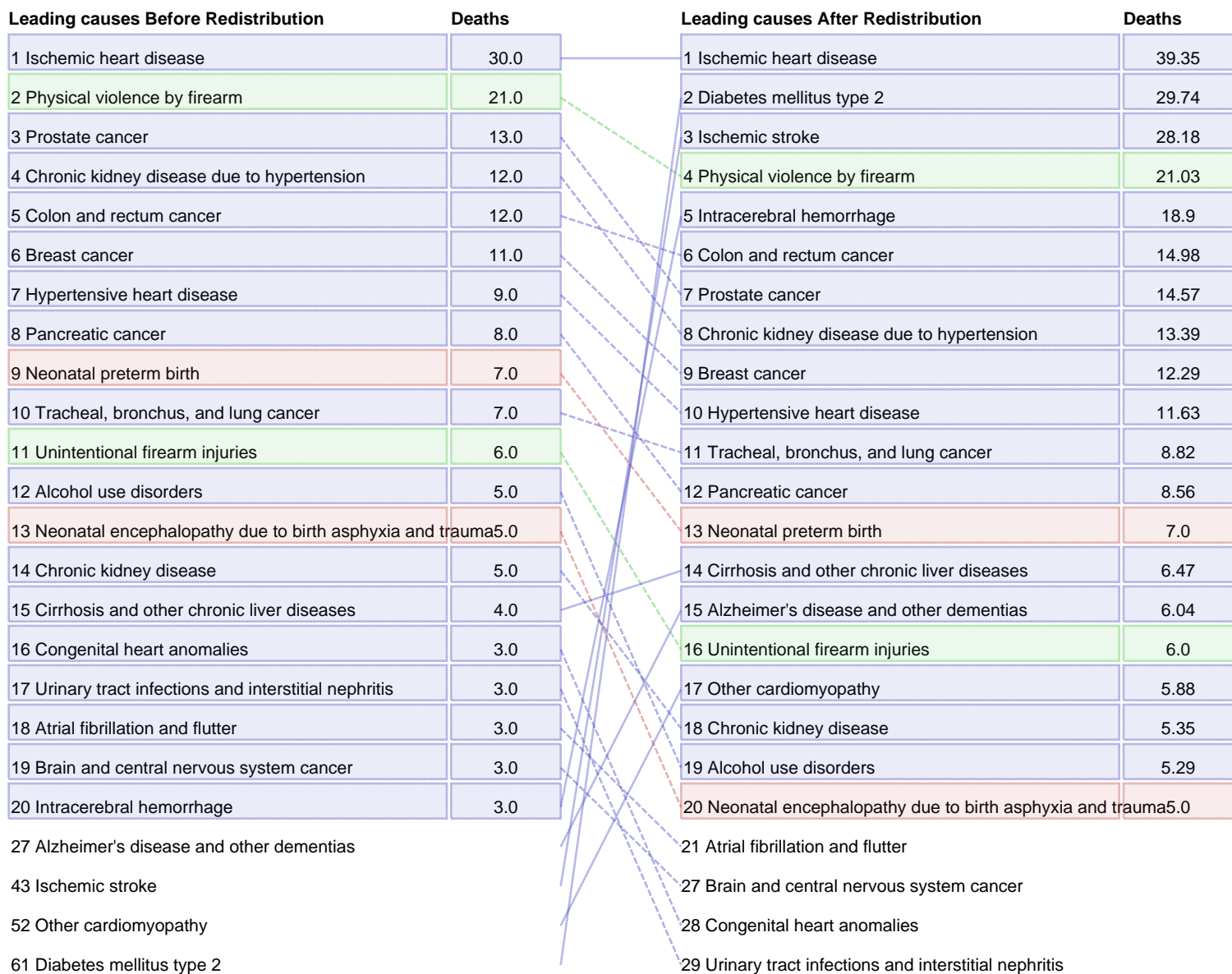
# Leading causes of death before and after garbage code redistribution: Kiribati - 2001.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



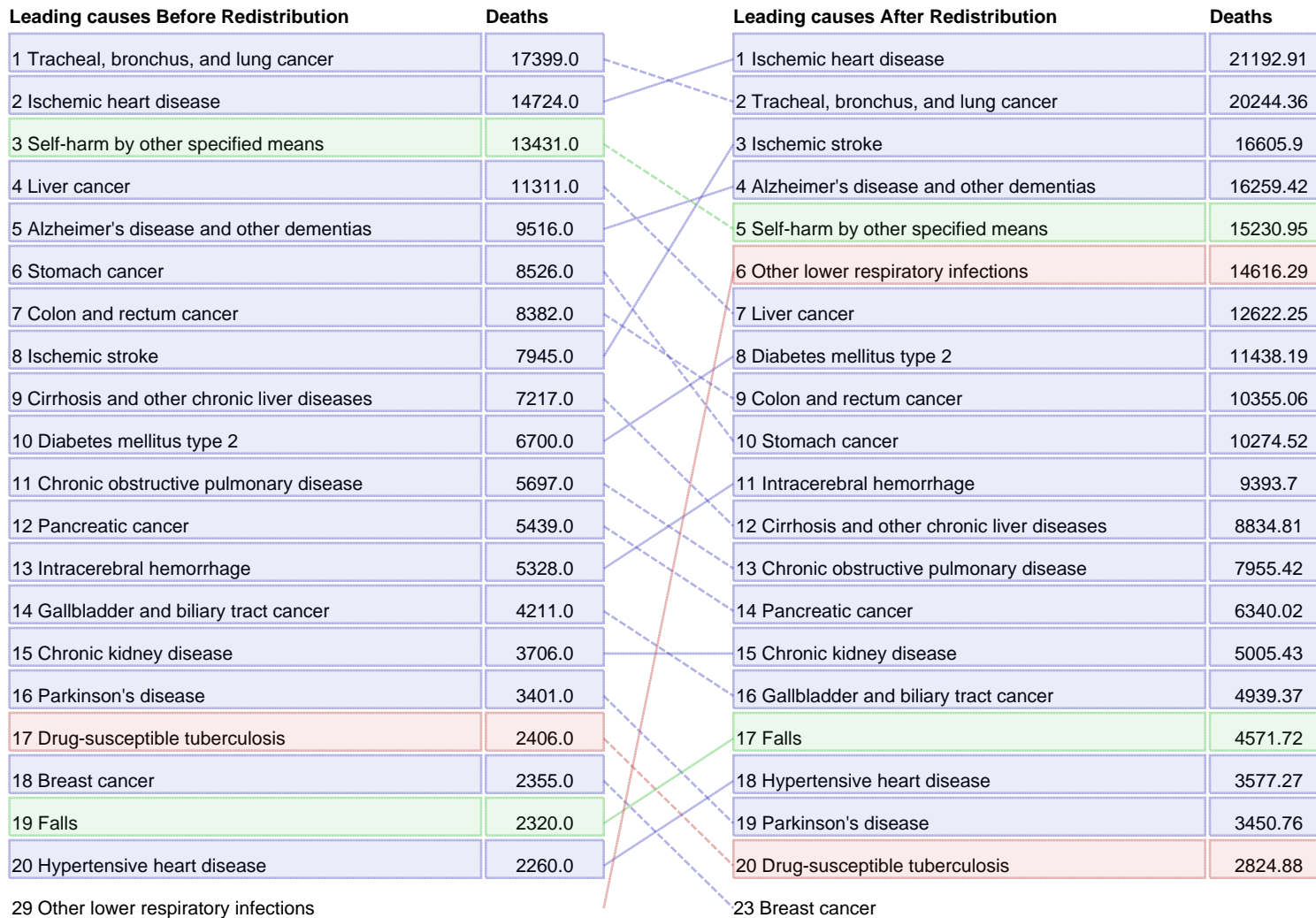
### Leading causes of death before and after garbage code redistribution: Saint Kitts and Nevis - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Republic of Korea - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Kuwait - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



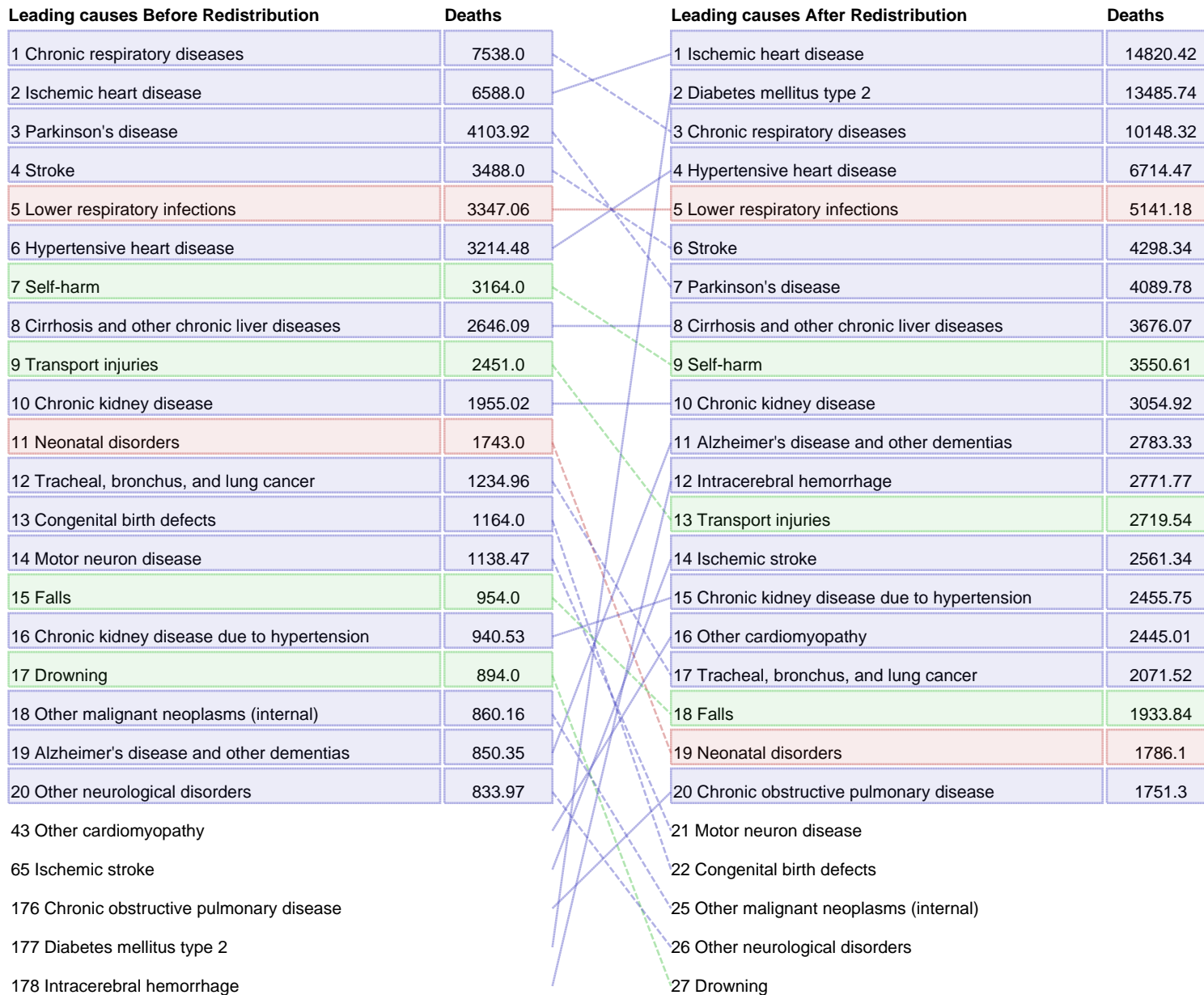
## Leading causes of death before and after garbage code redistribution: Saint Lucia - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



## Leading causes of death before and after garbage code redistribution: Sri Lanka - 2013.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Lithuania - 2015.

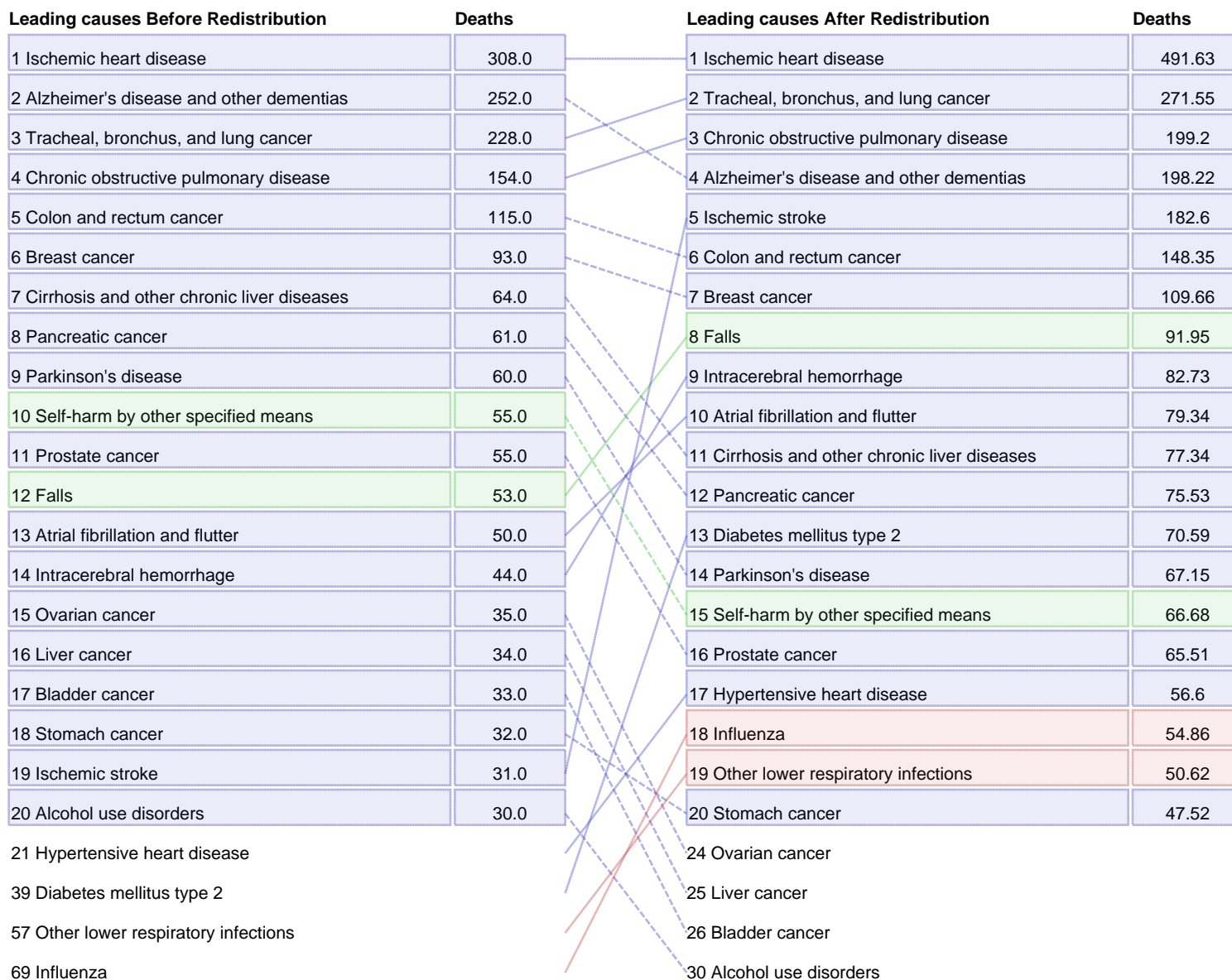
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.

Leading causes Before Redistribution	Deaths	Leading causes After Redistribution	Deaths
1 Ischemic heart disease	15566.0	1 Ischemic heart disease	15588.08
2 Ischemic stroke	3531.0	2 Ischemic stroke	4255.41
3 Tracheal, bronchus, and lung cancer	1353.0	3 Tracheal, bronchus, and lung cancer	1484.13
4 Colon and rectum cancer	986.0	4 Alzheimer's disease and other dementias	1356.74
5 Self-harm by other specified means	870.0	5 Colon and rectum cancer	1123.73
6 Cirrhosis and other chronic liver diseases	823.0	6 Self-harm by other specified means	1050.48
7 Stomach cancer	685.0	7 Cirrhosis and other chronic liver diseases	945.84
8 Chronic obstructive pulmonary disease	663.0	8 Stomach cancer	790.71
9 Intracerebral hemorrhage	608.0	9 Intracerebral hemorrhage	779.11
10 Breast cancer	576.0	10 Chronic obstructive pulmonary disease	687.31
11 Prostate cancer	544.0	11 Breast cancer	638.69
12 Hypertensive heart disease	538.0	12 Prostate cancer	614.31
13 Pancreatic cancer	471.0	13 Hypertensive heart disease	542.66
14 Falls	394.0	14 Falls	541.19
15 Kidney cancer	319.0	15 Pancreatic cancer	530.91
16 Peptic ulcer disease	305.0	16 Other lower respiratory infections	379.78
17 Alcohol use disorders	296.0	17 Kidney cancer	344.21
18 Alzheimer's disease and other dementias	289.0	18 Alcohol use disorders	322.94
19 Ovarian cancer	278.0	19 Peptic ulcer disease	310.84
20 Vascular intestinal disorders	276.0	20 Vascular intestinal disorders	309.26
76 Other lower respiratory infections		21 Ovarian cancer	



### Leading causes of death before and after garbage code redistribution: Luxembourg - 2015.

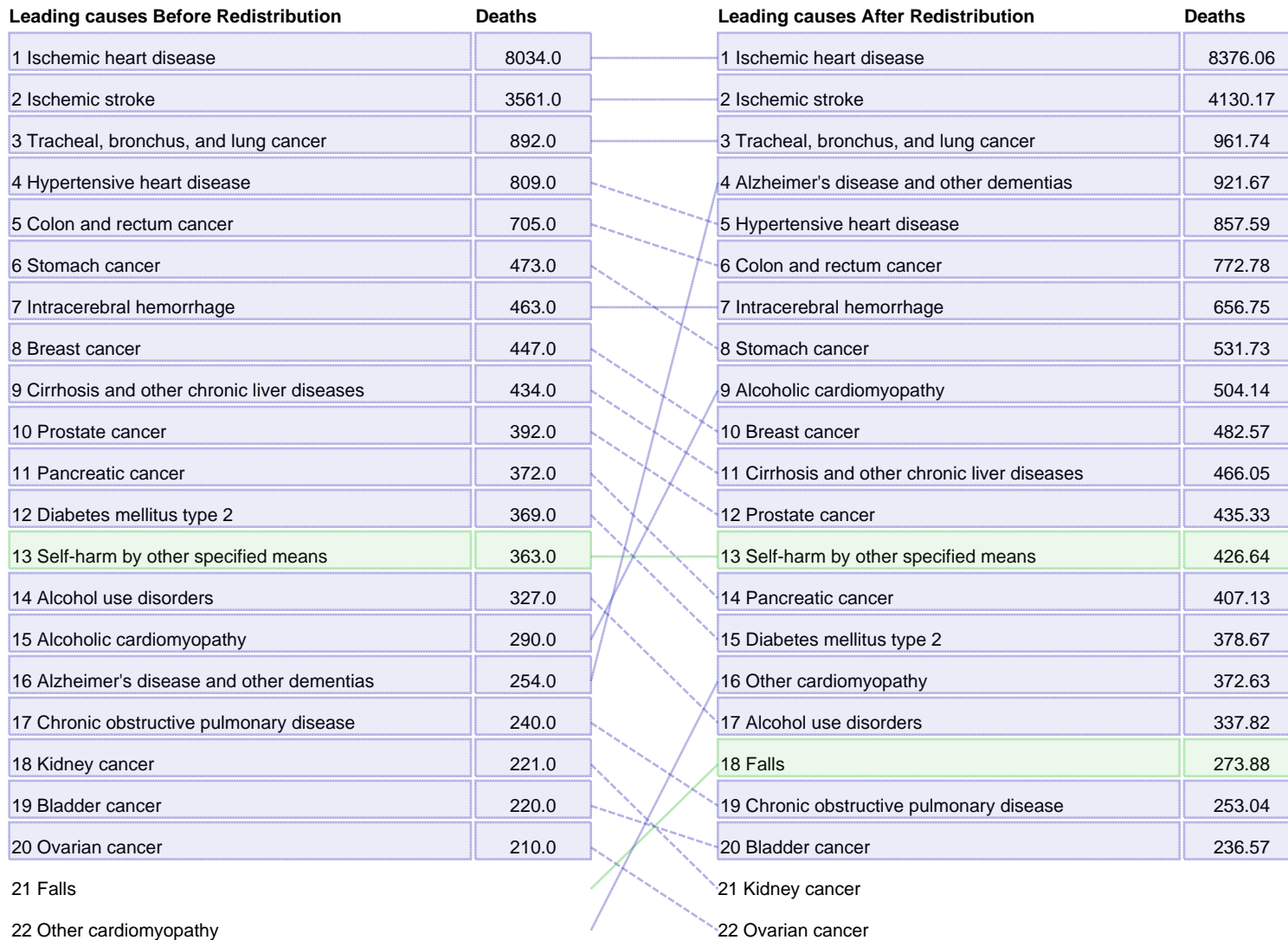
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





### Leading causes of death before and after garbage code redistribution: Latvia - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



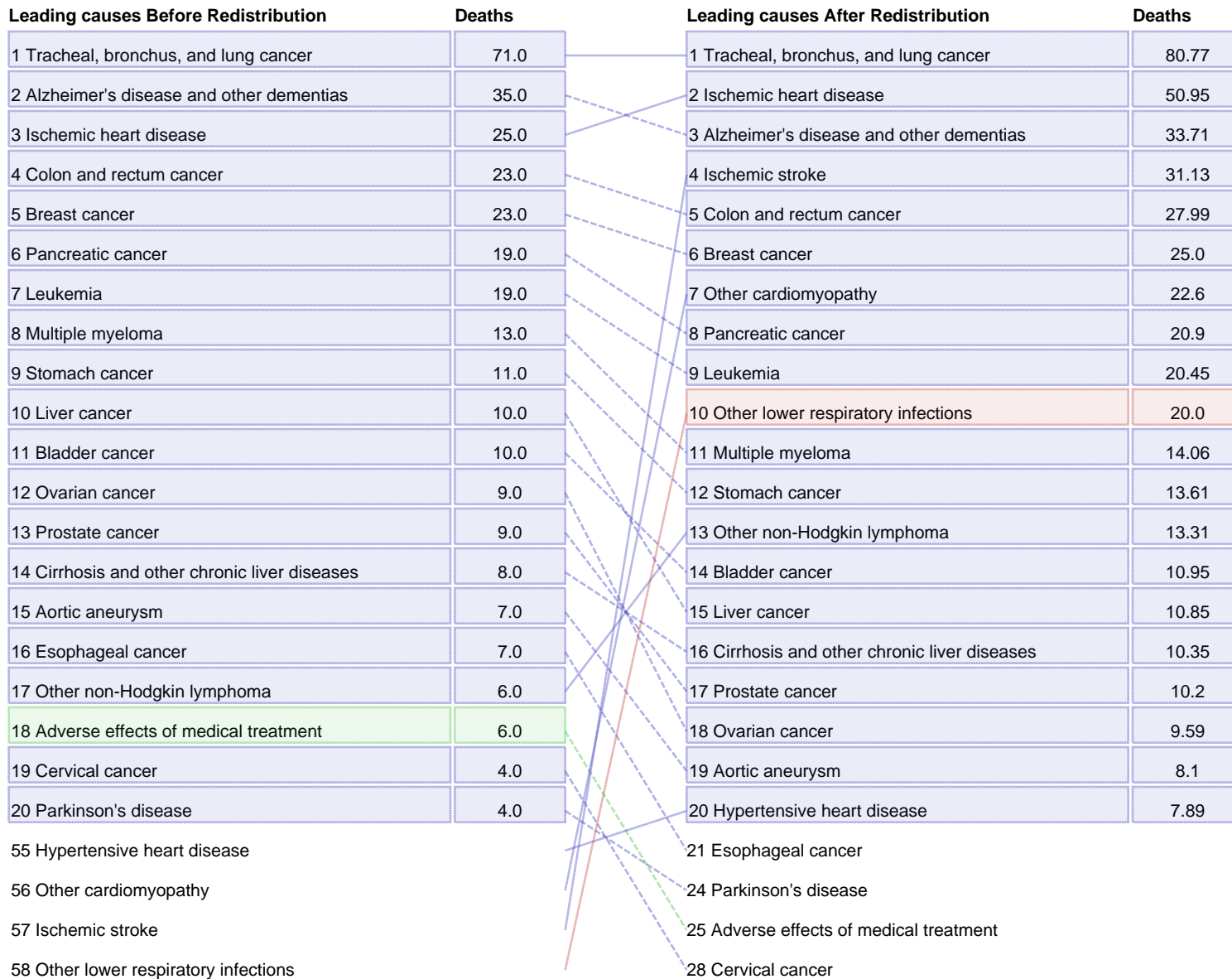
# Leading causes of death before and after garbage code redistribution: Morocco - 2014.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



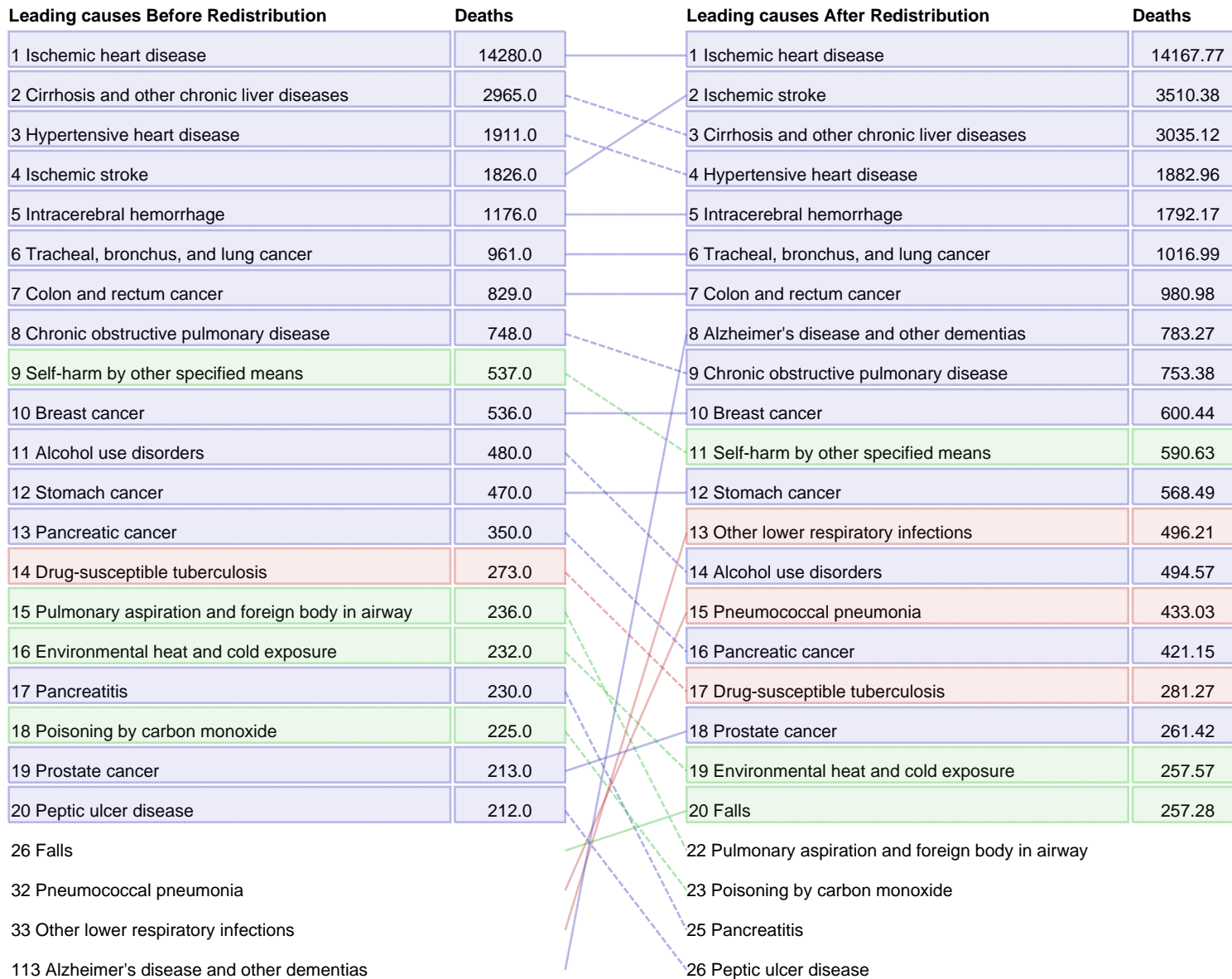
### Leading causes of death before and after garbage code redistribution: Monaco - 2013.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Republic of Moldova - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



## Leading causes of death before and after garbage code redistribution: Maldives - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Mexico - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: North Macedonia - 2013.

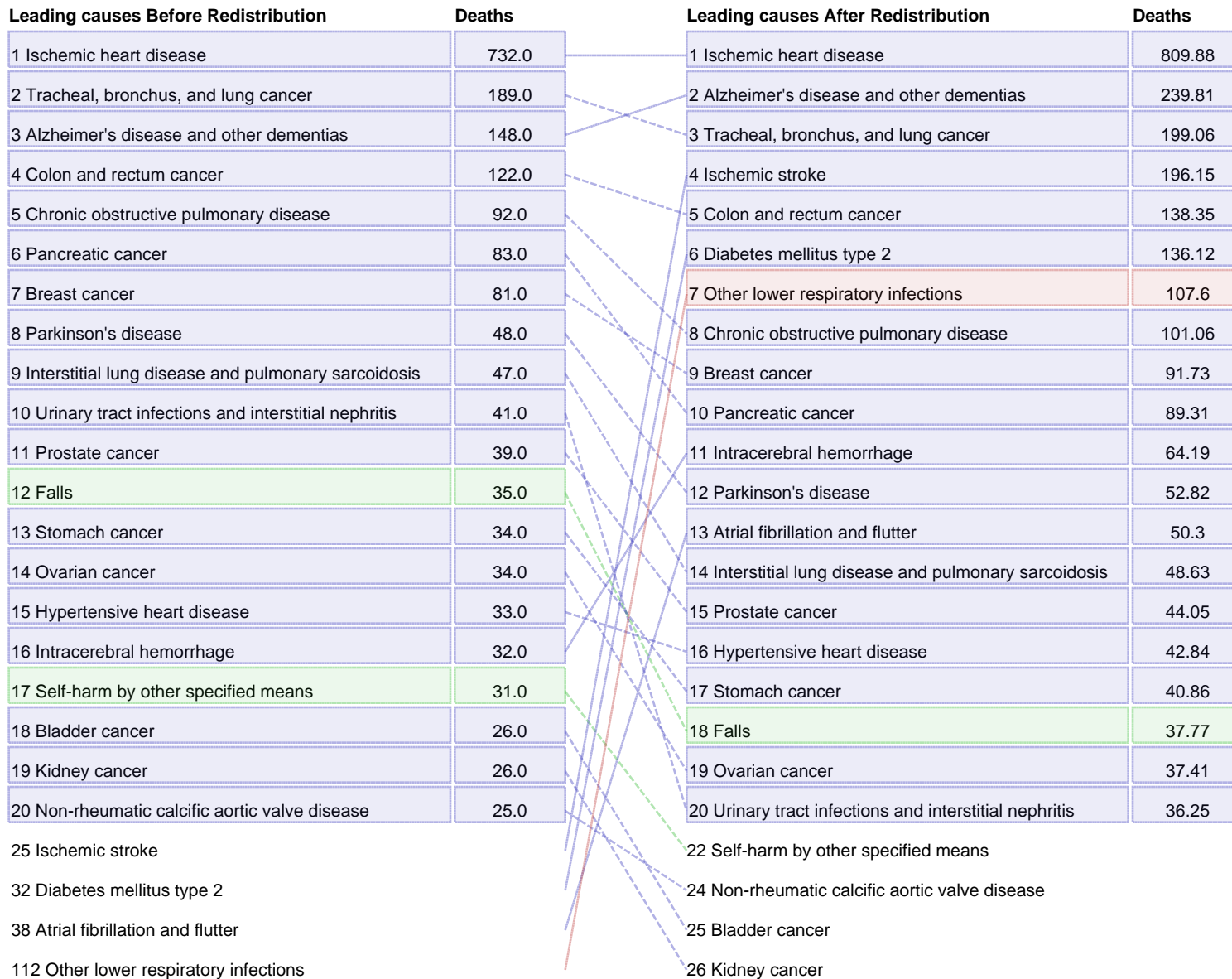
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





### Leading causes of death before and after garbage code redistribution: Malta - 2015.

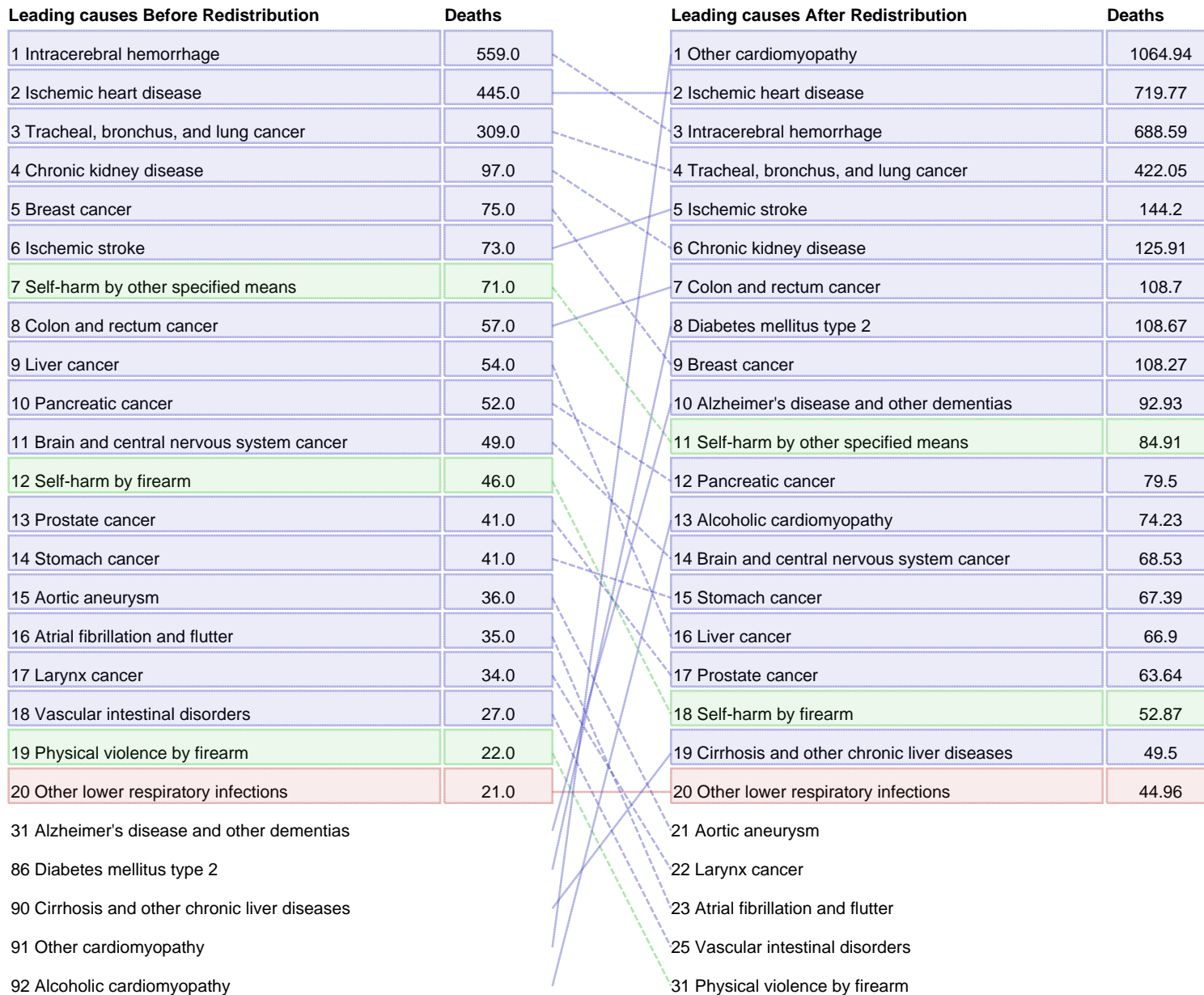
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





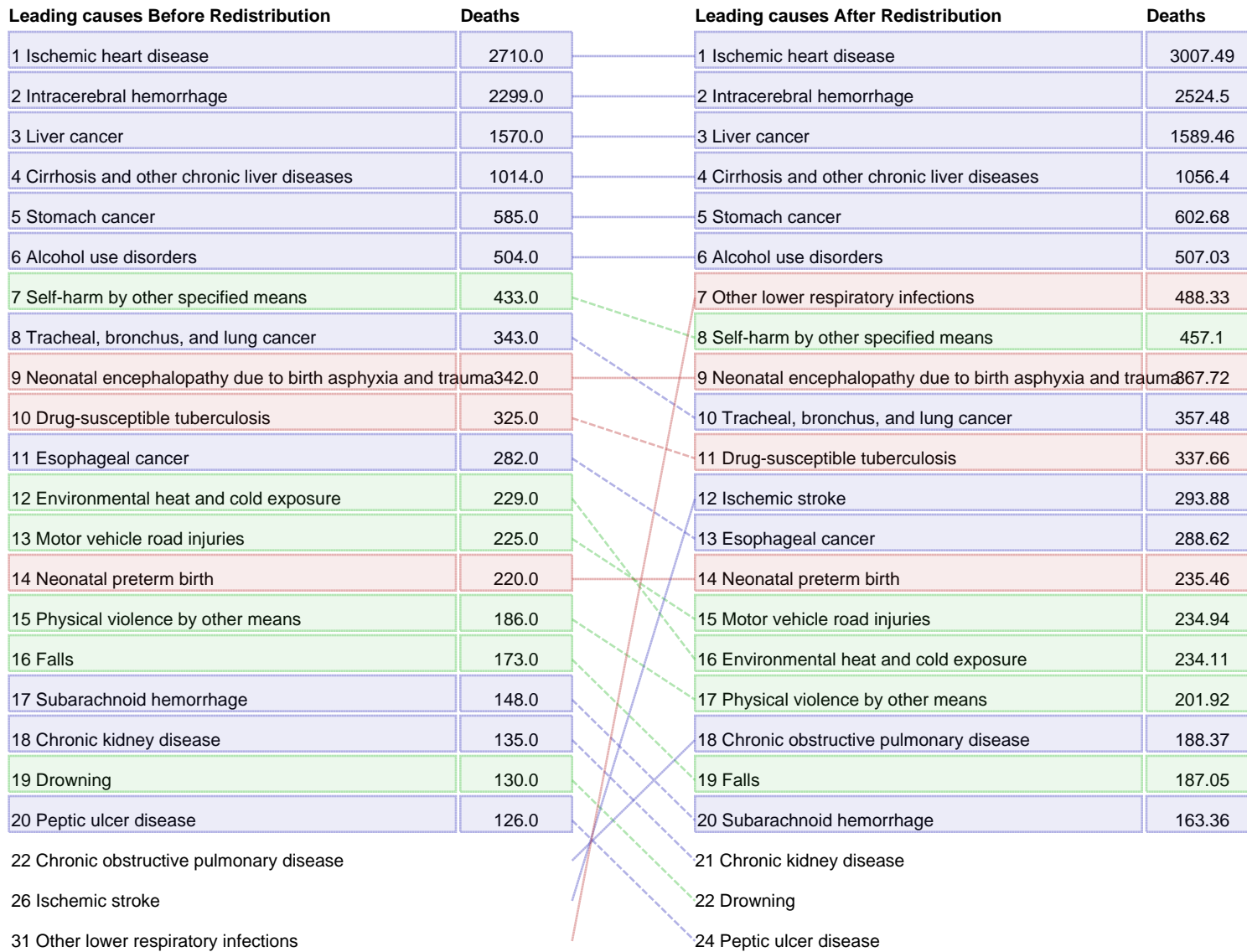
### Leading causes of death before and after garbage code redistribution: Montenegro - 2005.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



# Leading causes of death before and after garbage code redistribution: Mongolia - 2010.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



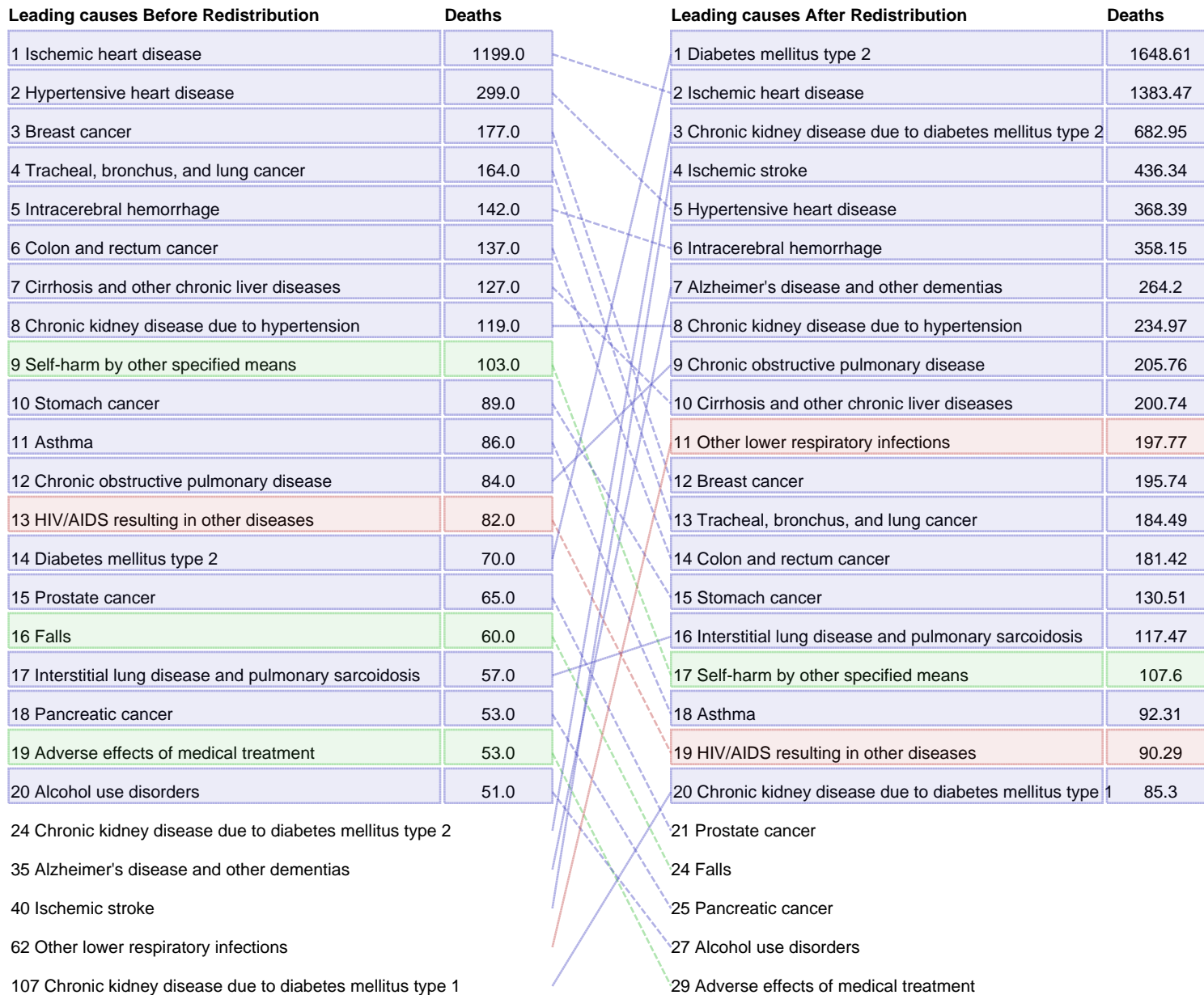
## Leading causes of death before and after garbage code redistribution: Northern Mariana Islands - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Mauritius - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



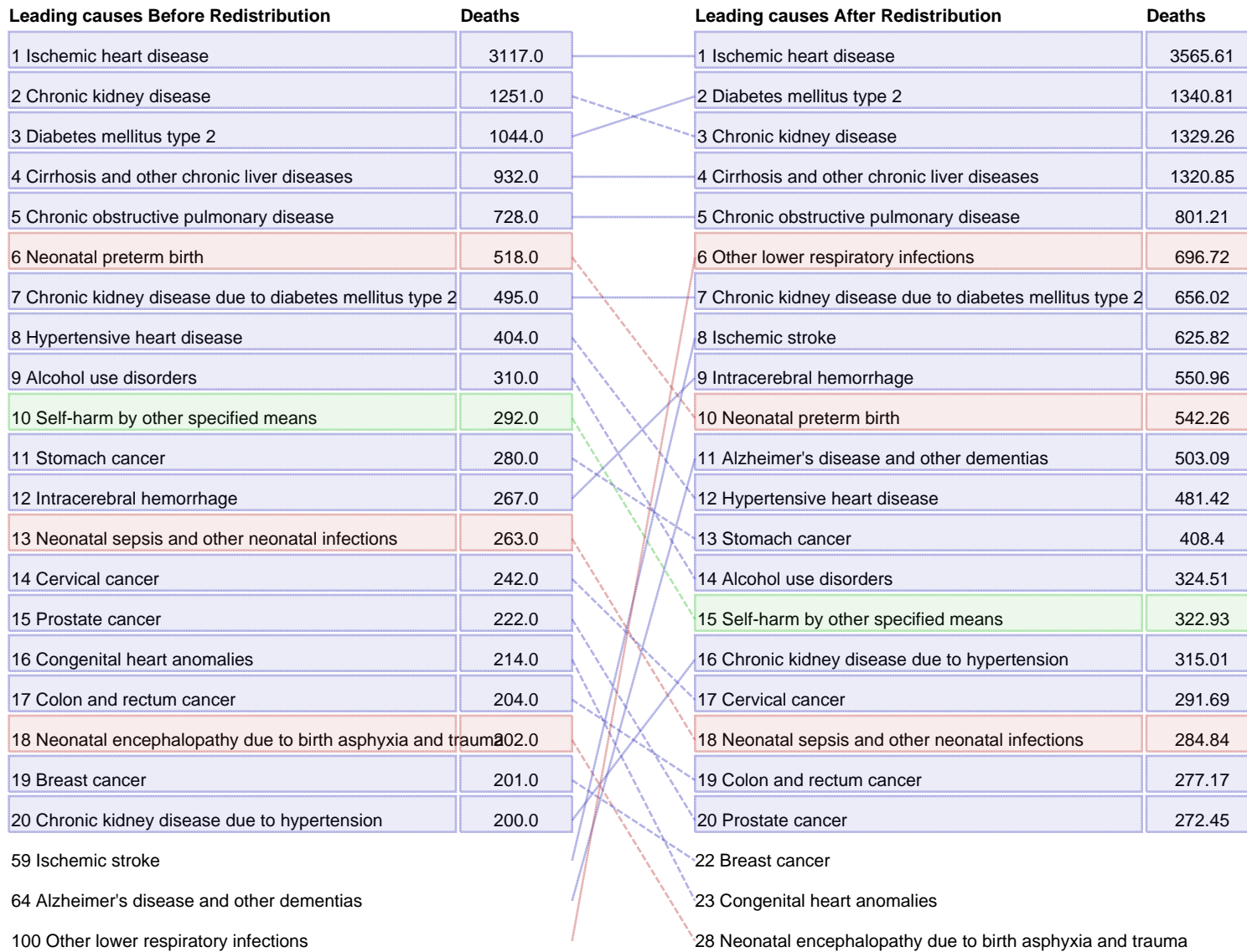
## Leading causes of death before and after garbage code redistribution: Malaysia - 2014.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



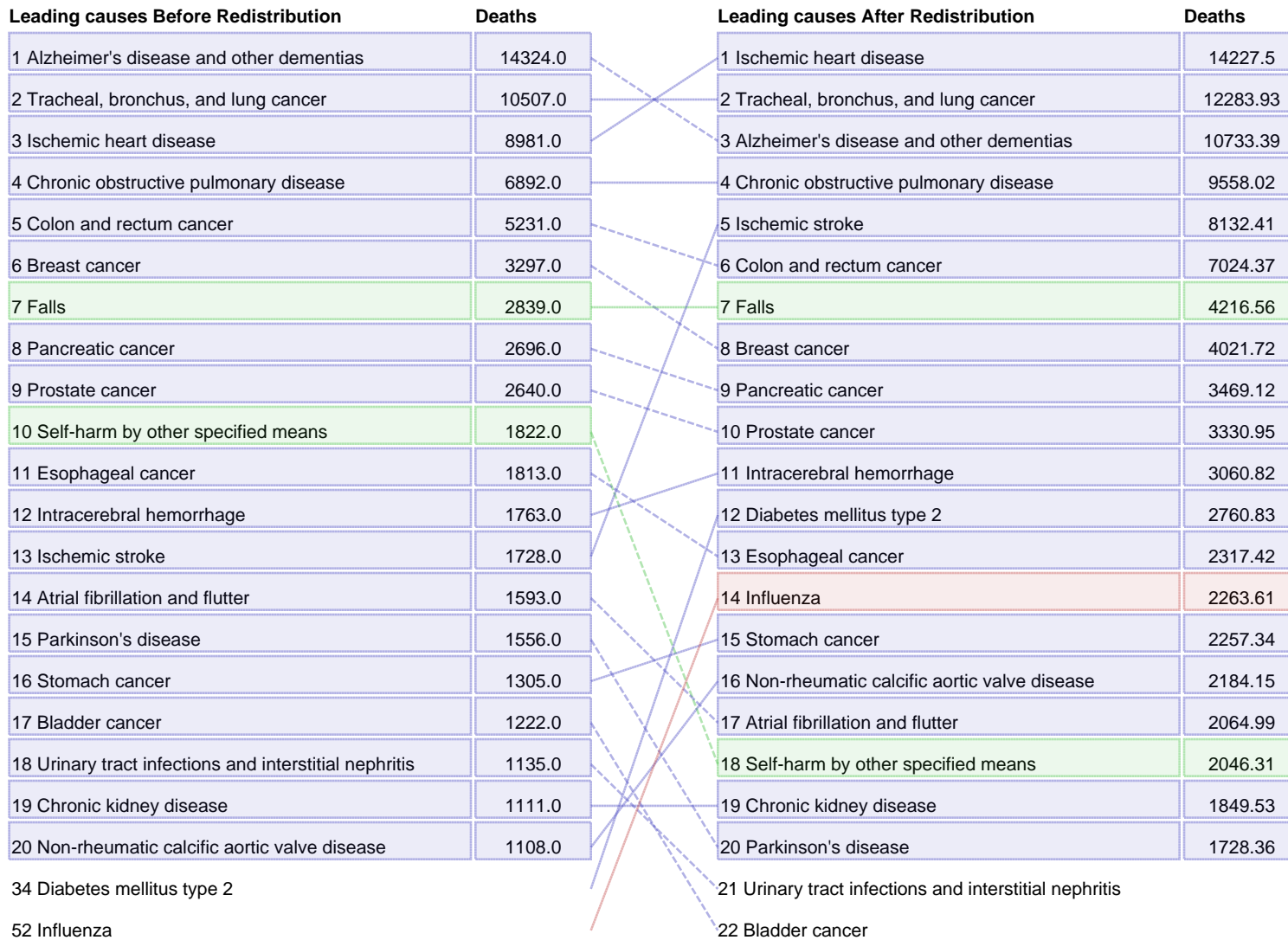
### Leading causes of death before and after garbage code redistribution: Nicaragua - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Netherlands - 2015.

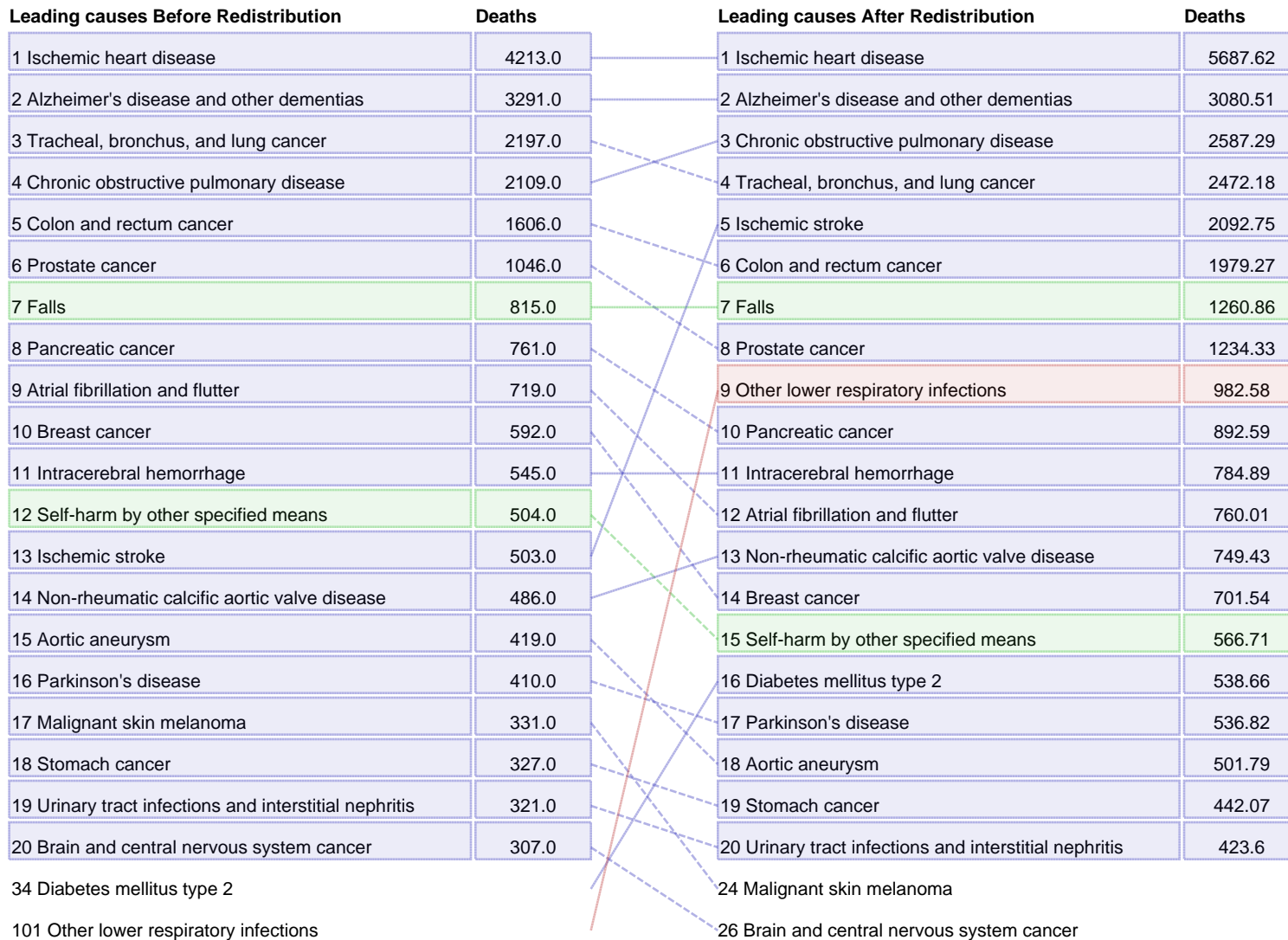
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





### Leading causes of death before and after garbage code redistribution: Norway - 2015.

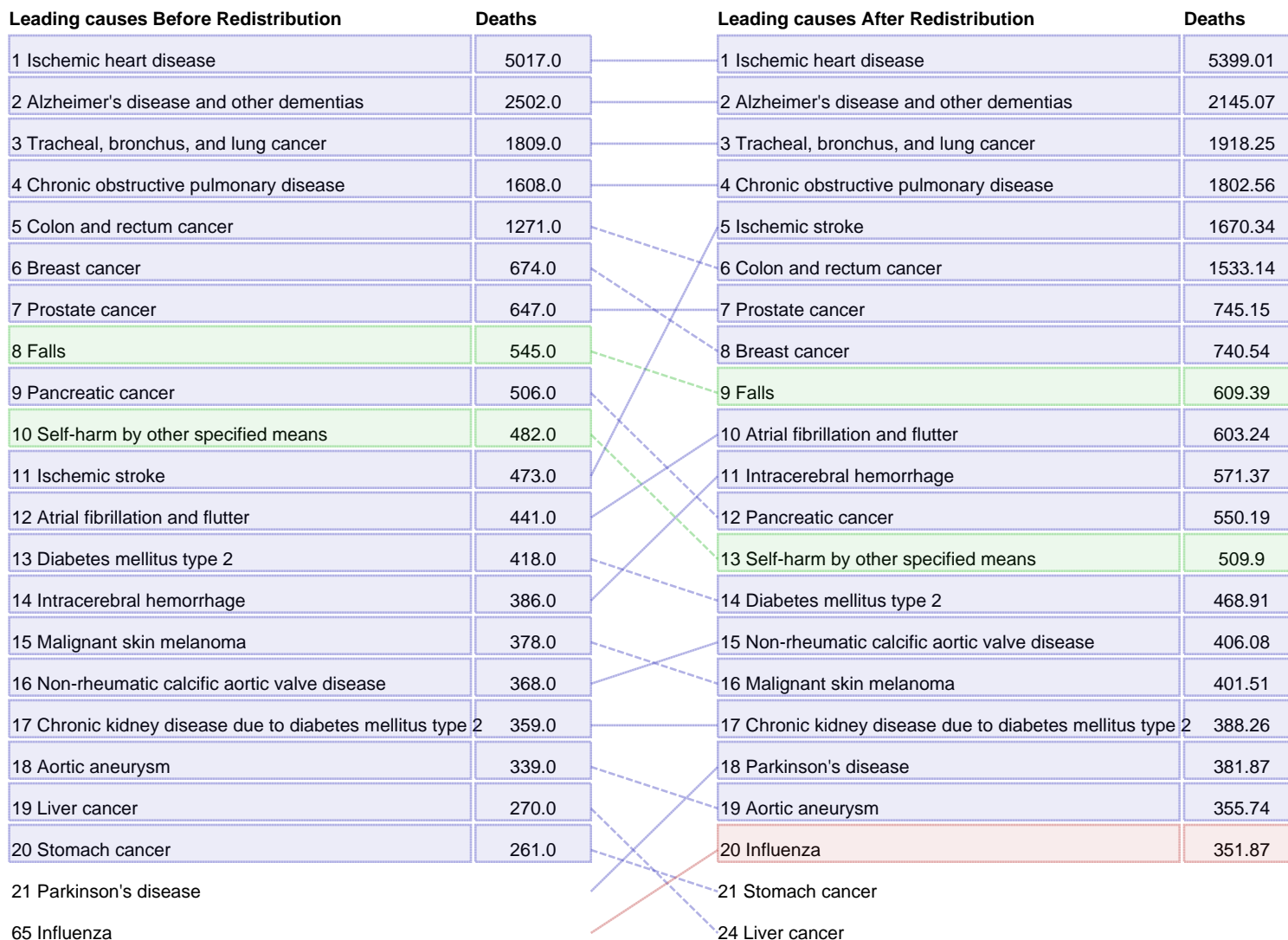
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





### Leading causes of death before and after garbage code redistribution: New Zealand - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



## Leading causes of death before and after garbage code redistribution: Oman - 2014.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



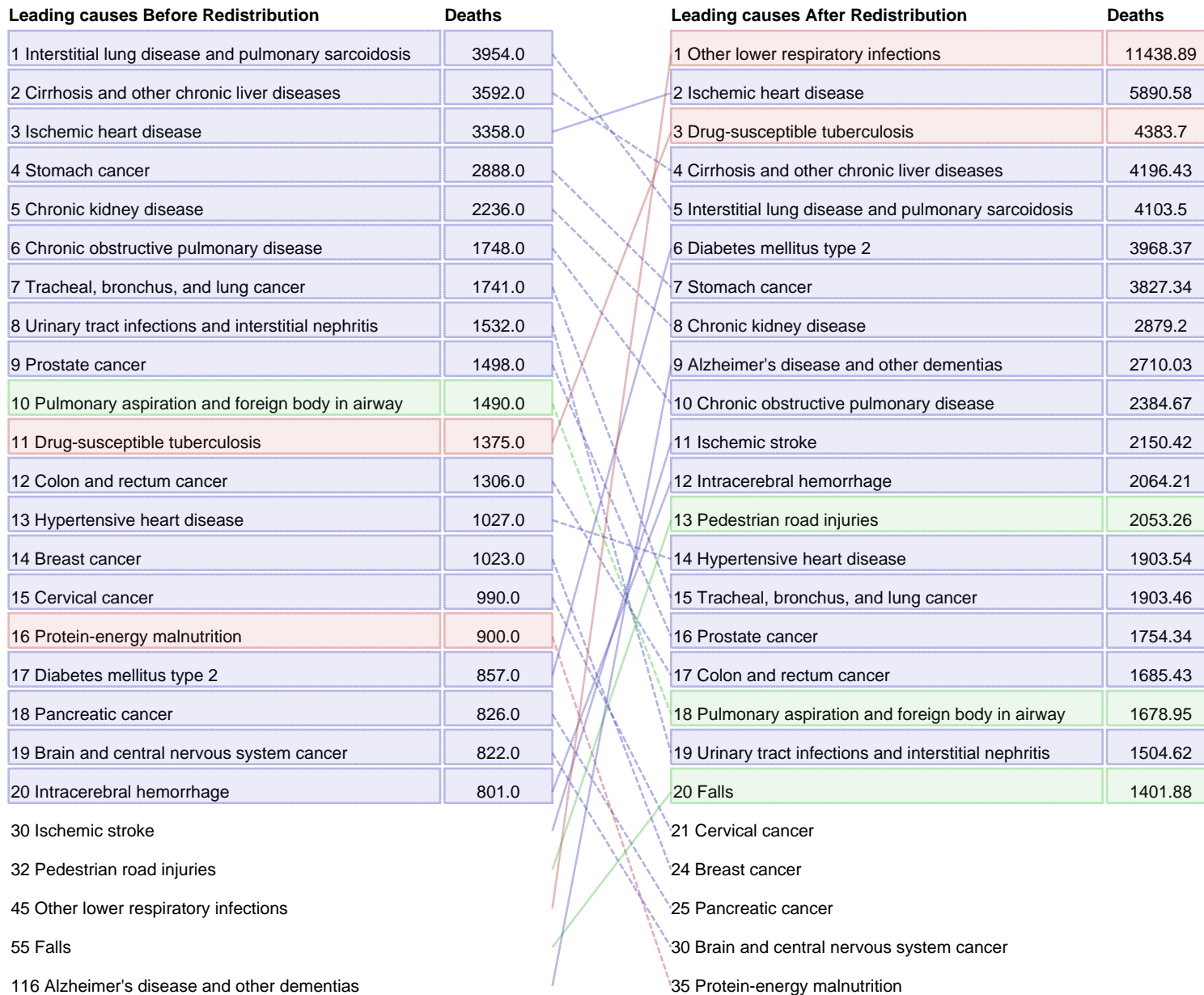
## Leading causes of death before and after garbage code redistribution: Panama - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



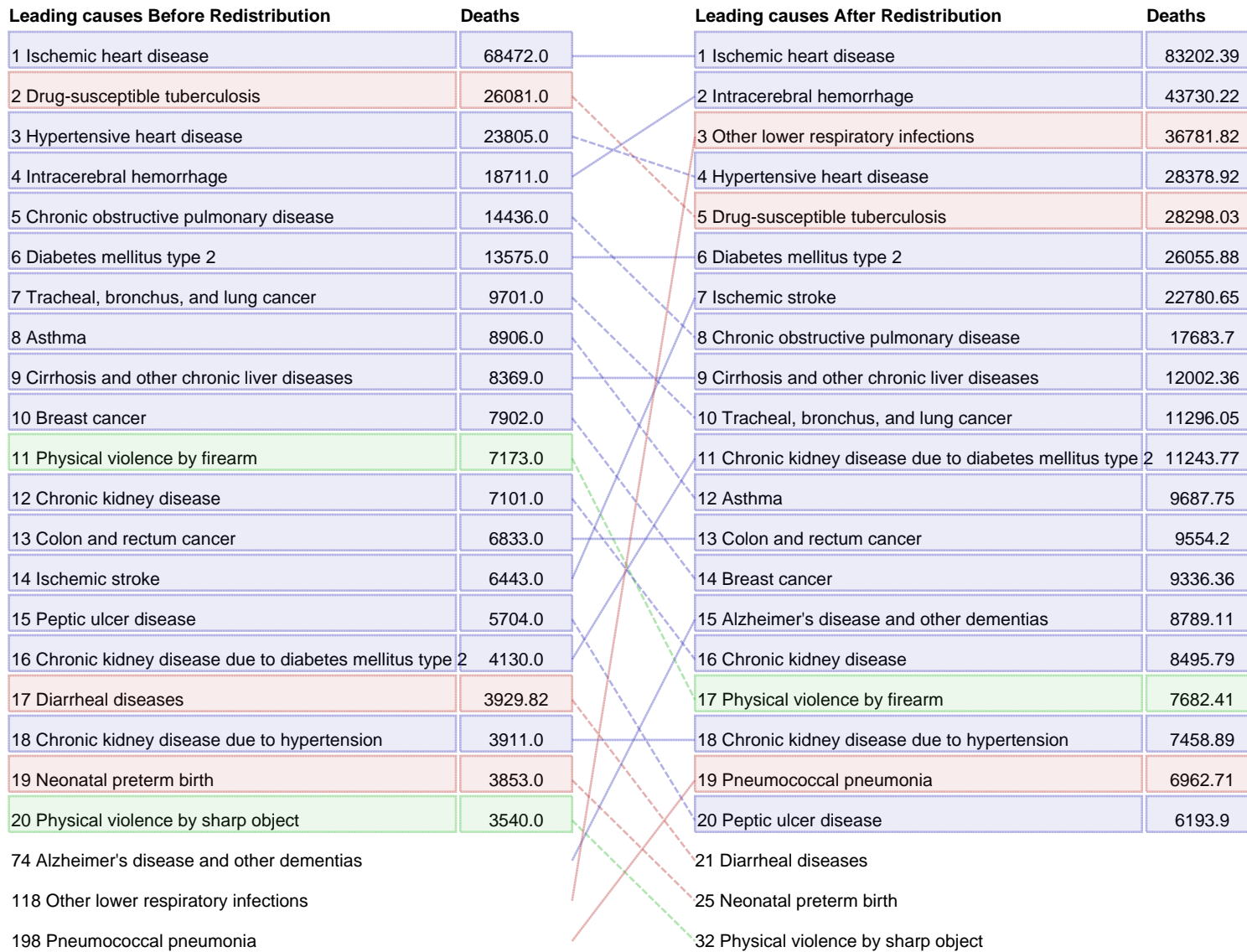
## Leading causes of death before and after garbage code redistribution: Peru - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



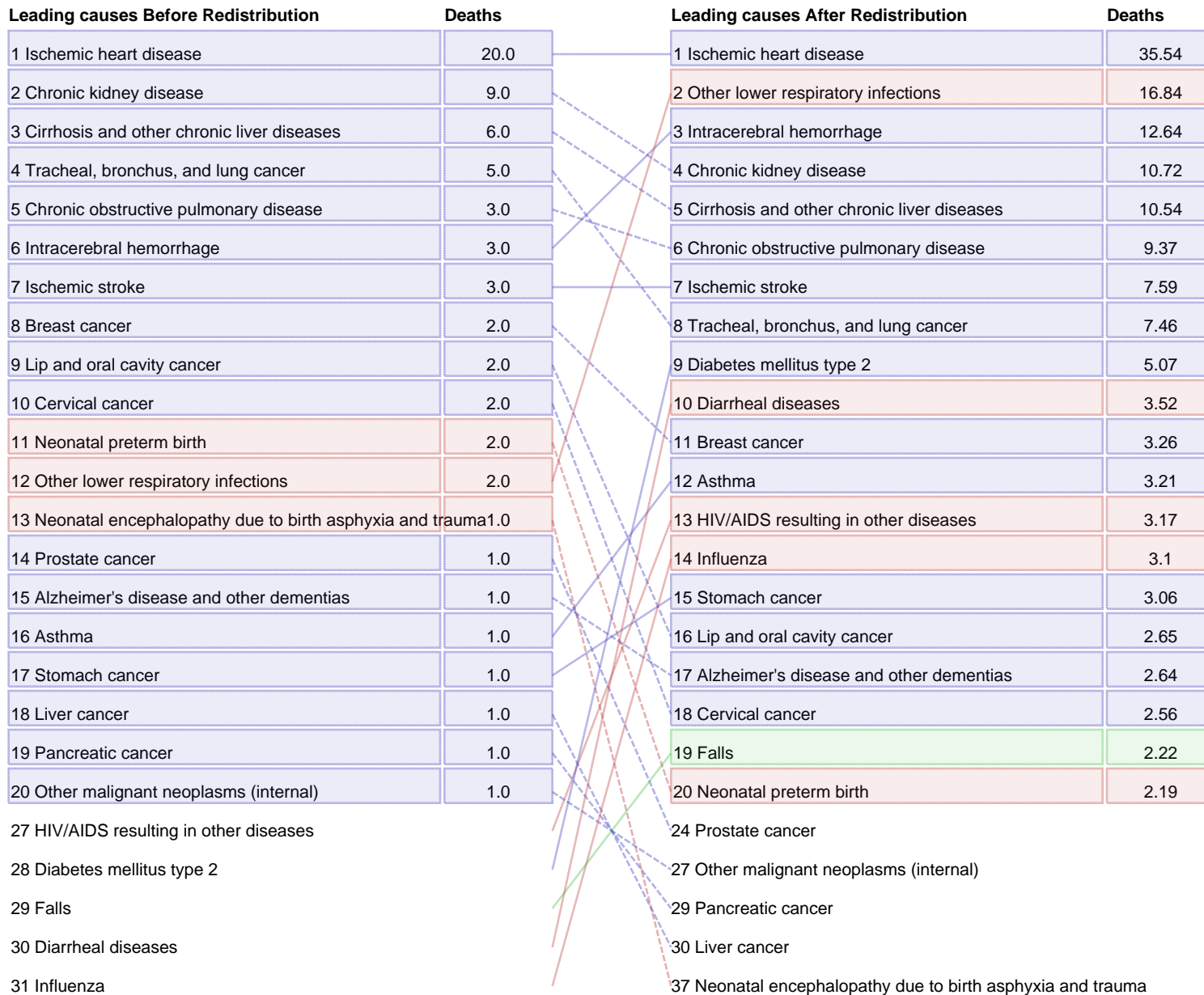
### Leading causes of death before and after garbage code redistribution: Philippines - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



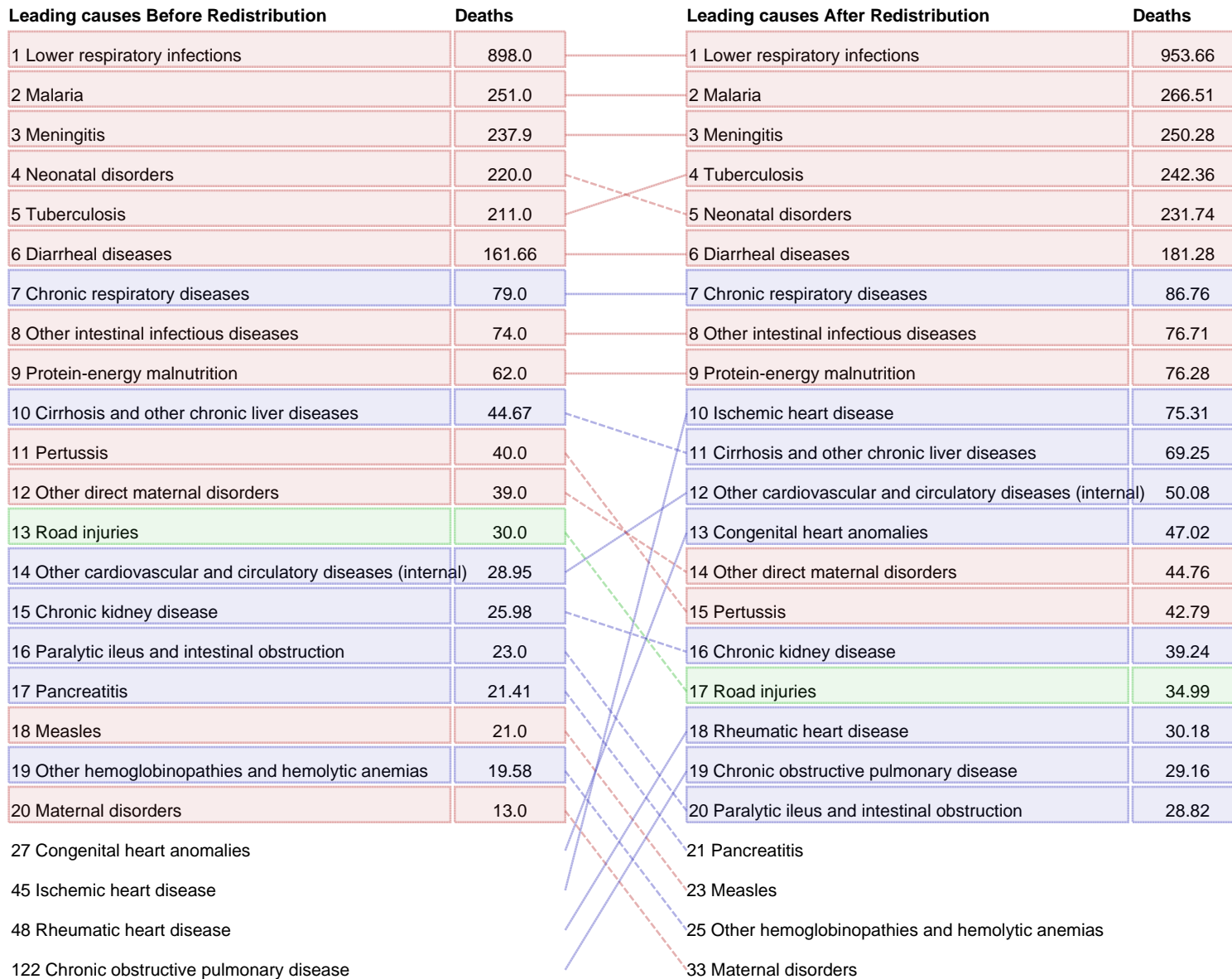
### Leading causes of death before and after garbage code redistribution: Palau - 2013.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Papua New Guinea - 1980.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





### Leading causes of death before and after garbage code redistribution: Poland - 2015.

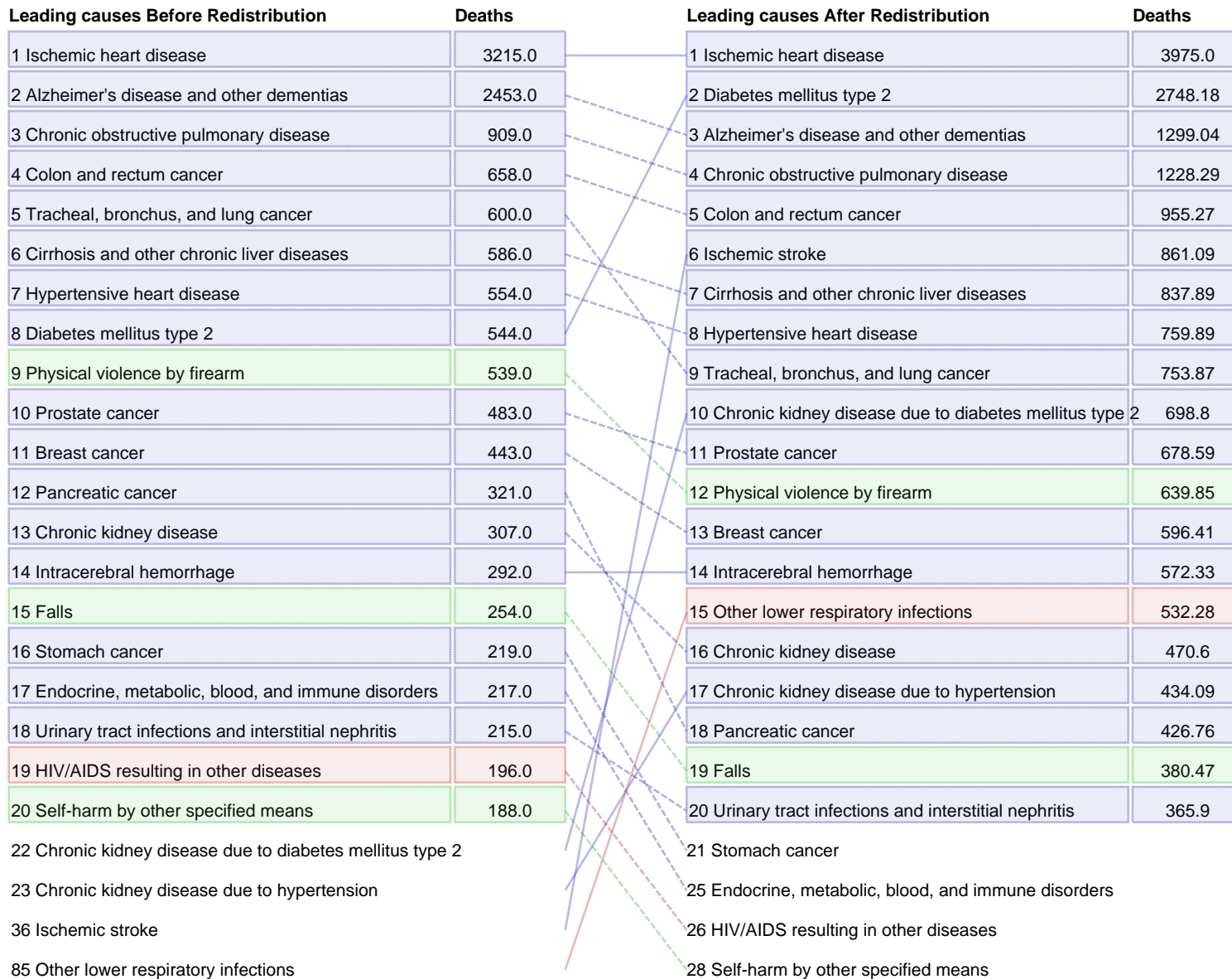
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





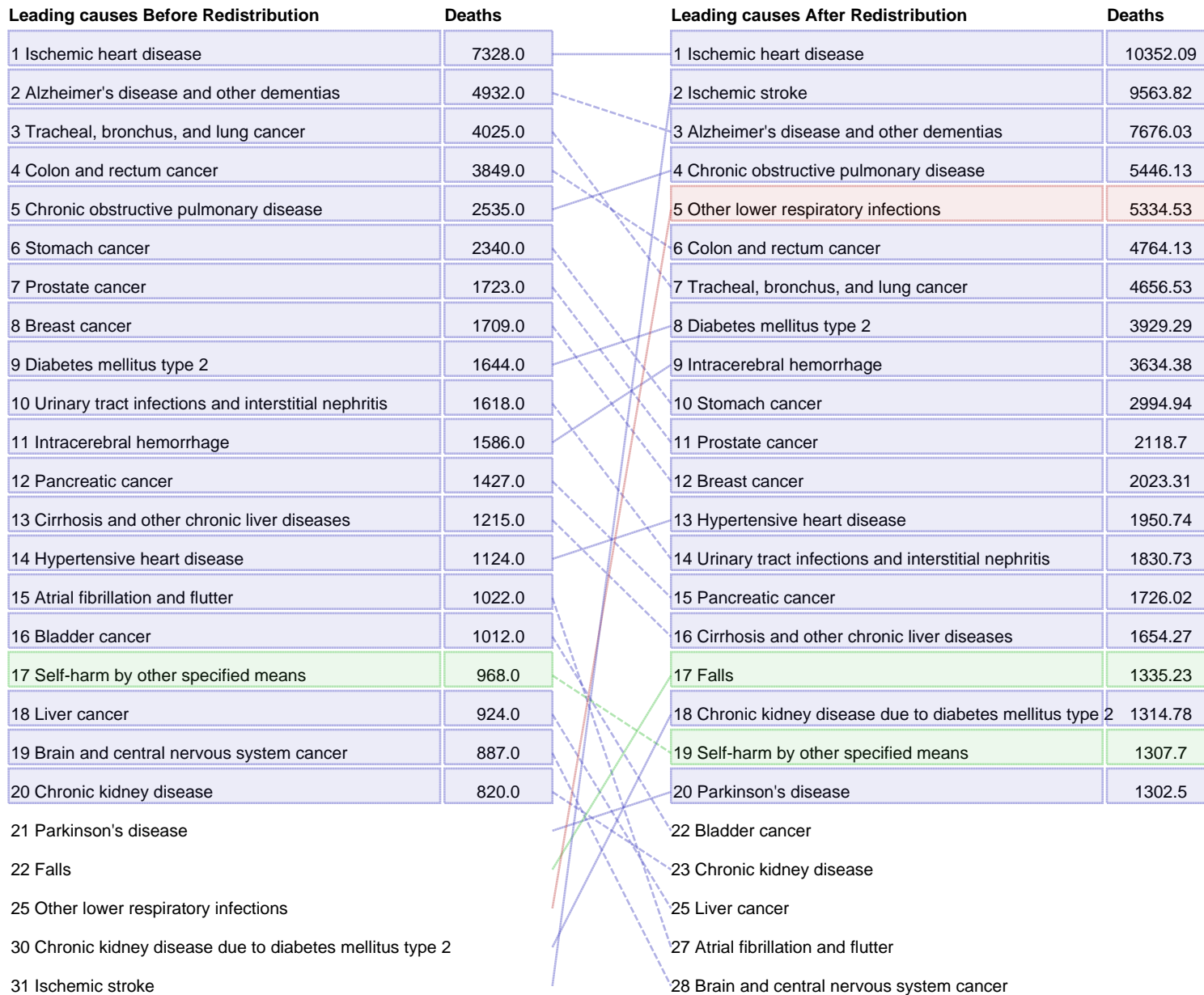
### Leading causes of death before and after garbage code redistribution: Puerto Rico - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



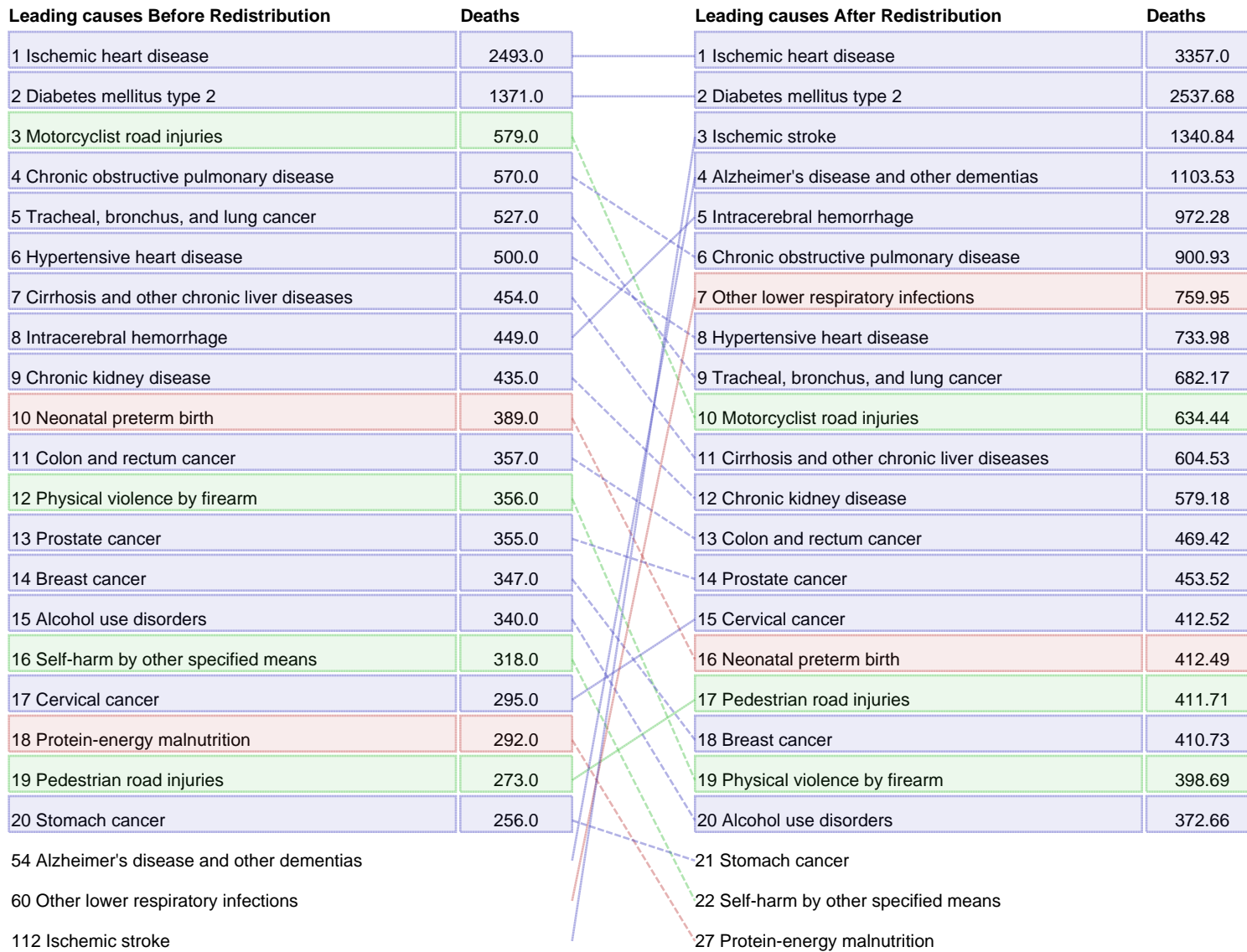
## Leading causes of death before and after garbage code redistribution: Portugal - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



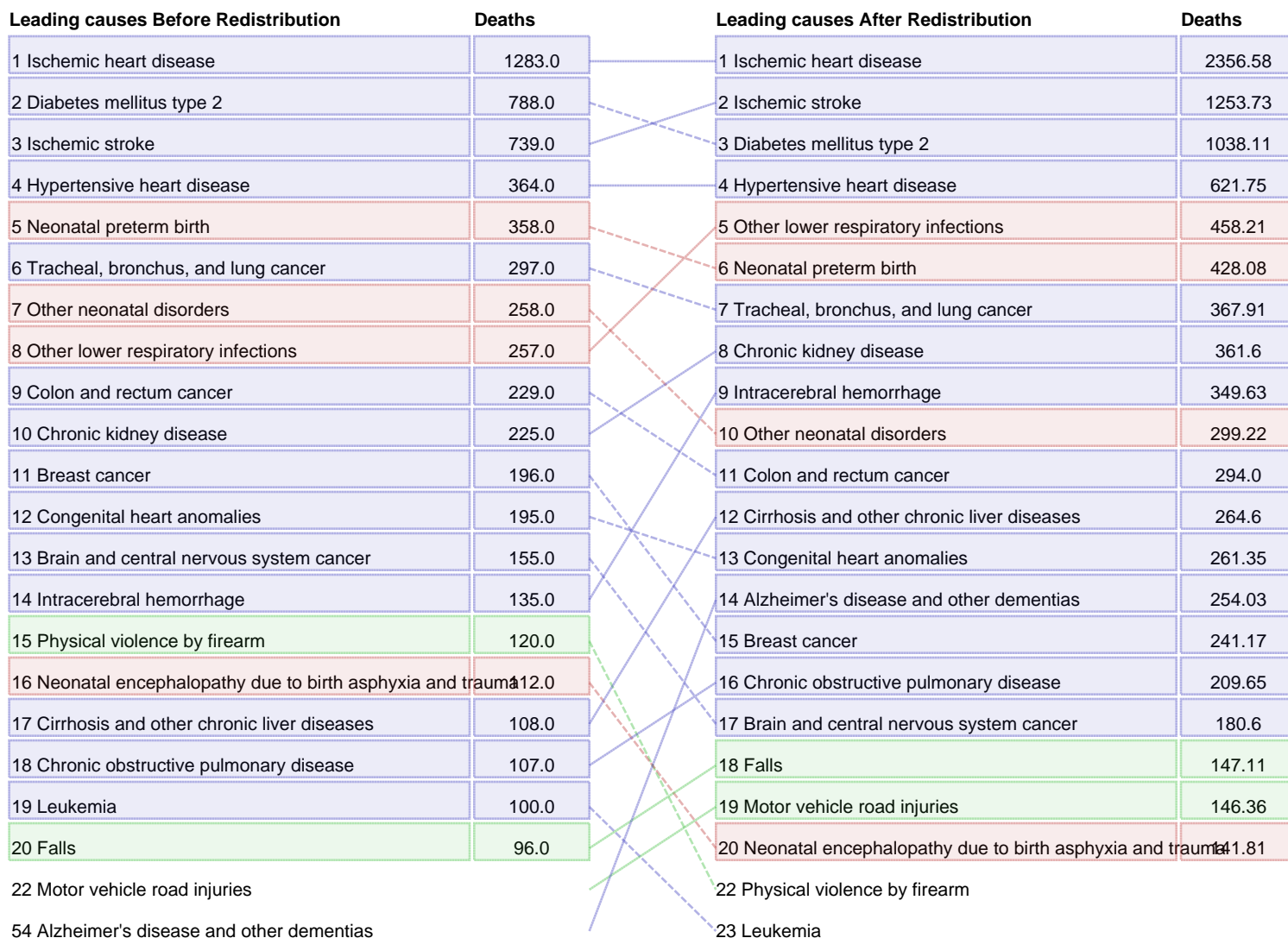
# Leading causes of death before and after garbage code redistribution: Paraguay - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Palestine - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



## Leading causes of death before and after garbage code redistribution: Qatar - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



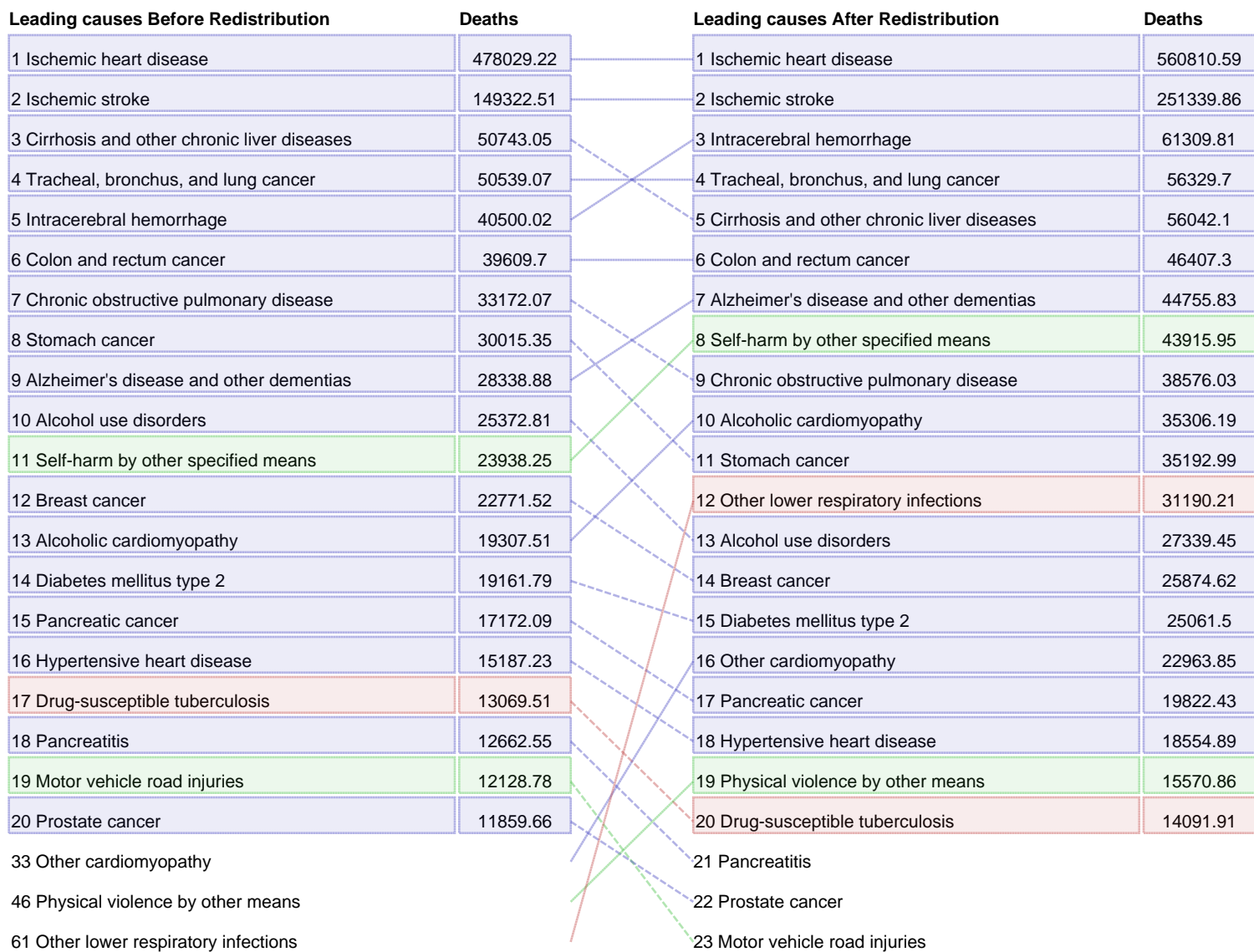
## Leading causes of death before and after garbage code redistribution: Romania - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Russian Federation - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





## Leading causes of death before and after garbage code redistribution: Singapore - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





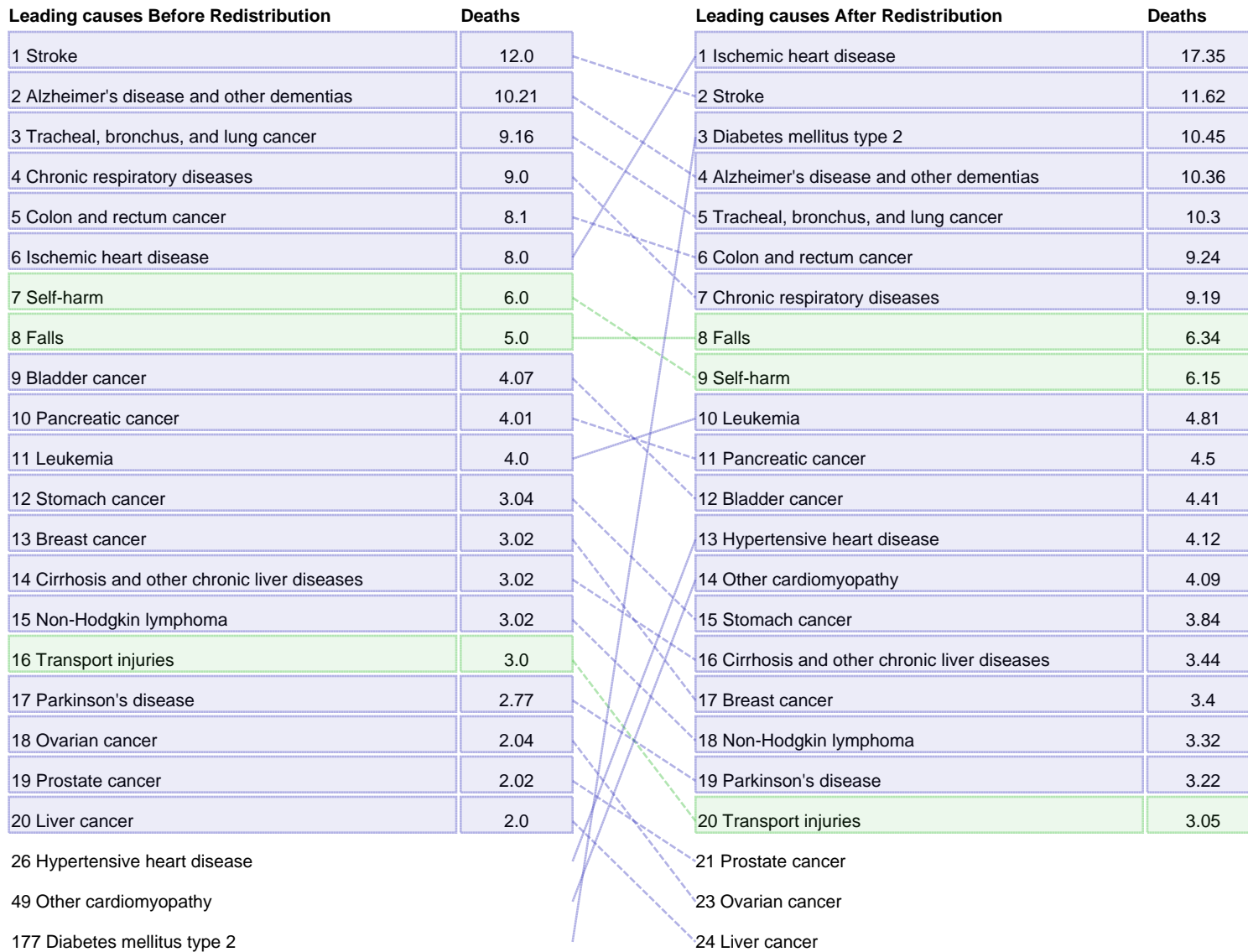
## Leading causes of death before and after garbage code redistribution: El Salvador - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



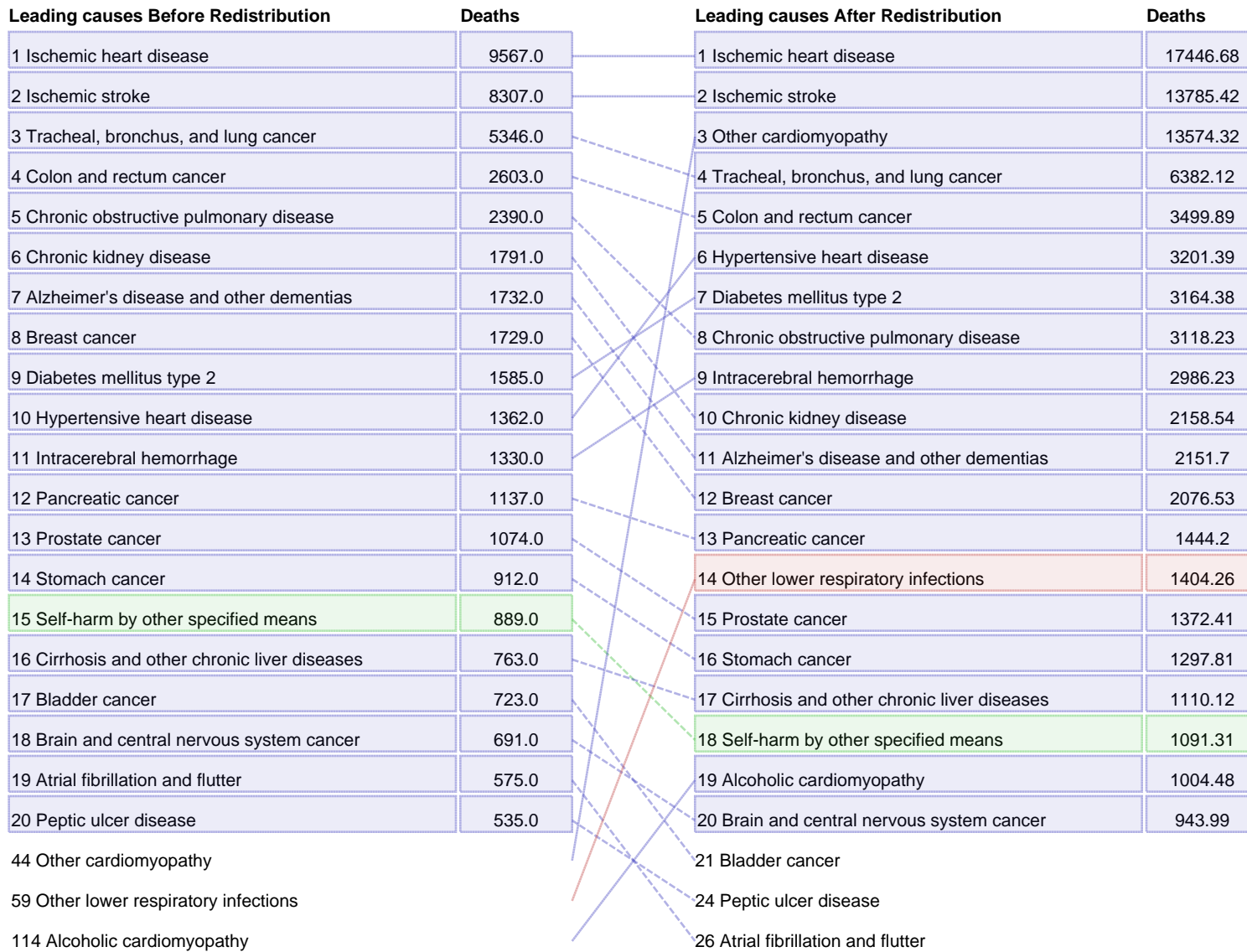
### Leading causes of death before and after garbage code redistribution: San Marino - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Serbia - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Sao Tome and Principe - 1985.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



# Leading causes of death before and after garbage code redistribution: Suriname - 2014.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



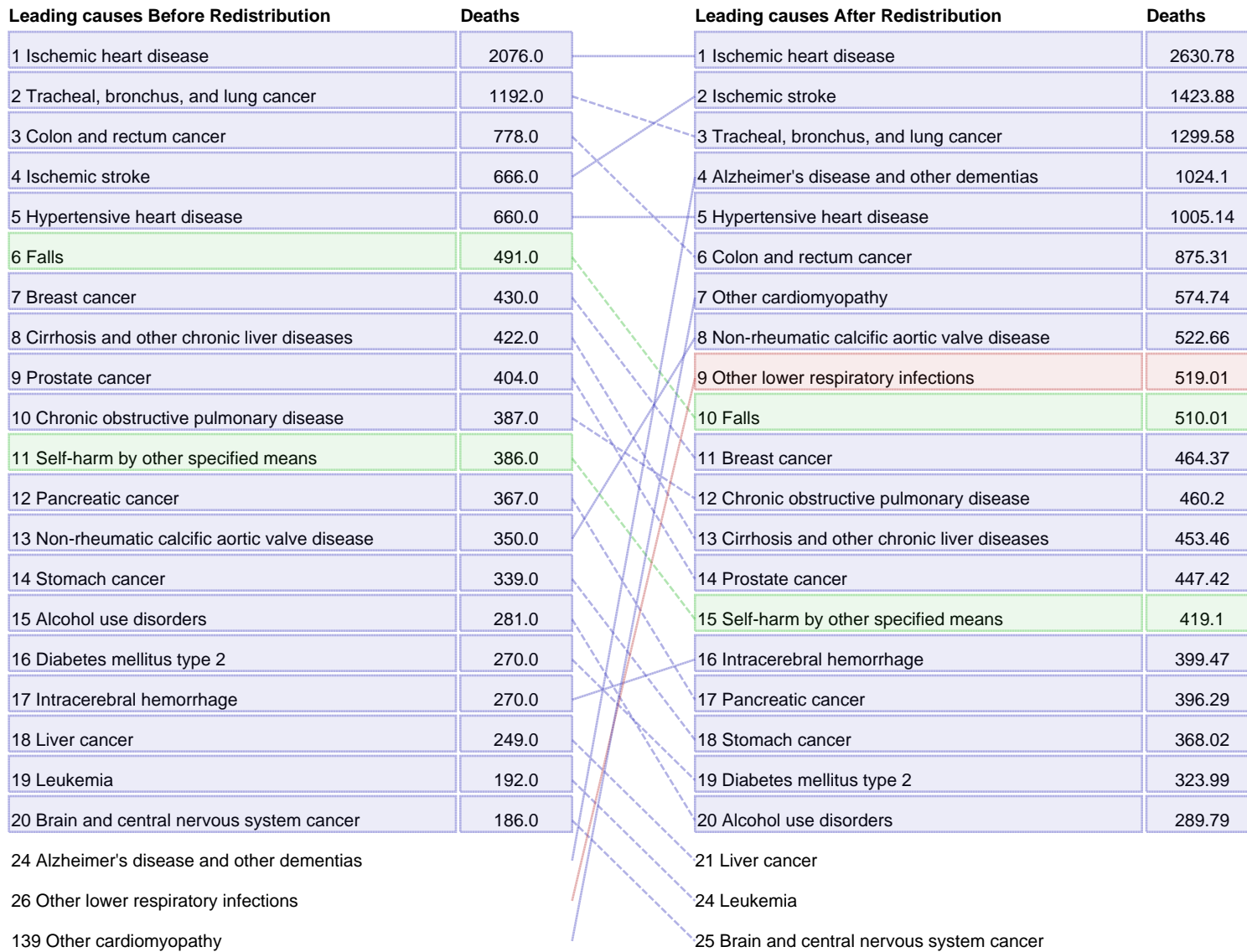
### Leading causes of death before and after garbage code redistribution: Slovakia - 2014.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



## Leading causes of death before and after garbage code redistribution: Slovenia - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Sweden - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





## Leading causes of death before and after garbage code redistribution: Seychelles - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



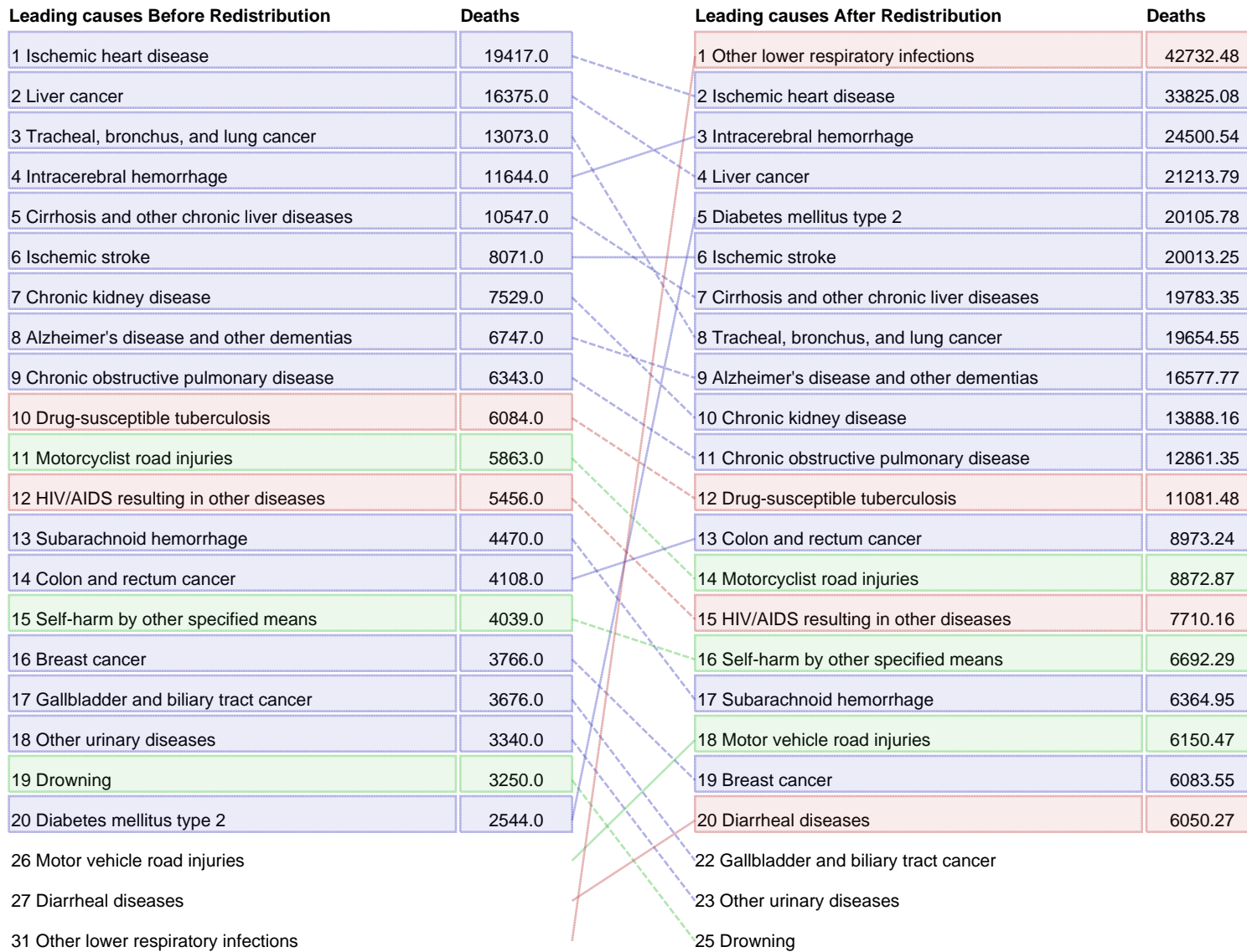
### Leading causes of death before and after garbage code redistribution: Syrian Arab Republic - 2009.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.

Leading causes Before Redistribution	Deaths	Leading causes After Redistribution	Deaths
1 Ischemic heart disease	14216.0	1 Ischemic heart disease	20189.69
2 Lower respiratory infections	5865.31	2 Lower respiratory infections	6767.85
3 Stroke	4382.0	3 Stroke	4782.78
4 Chronic respiratory diseases	2632.0	4 Chronic respiratory diseases	2935.49
5 Neonatal disorders	2585.0	5 Neonatal disorders	2590.54
6 Congenital birth defects	1783.0	6 Congenital birth defects	1822.61
7 Transport injuries	1386.0	7 Transport injuries	1537.12
8 Tracheal, bronchus, and lung cancer	862.63	8 Other cardiomyopathy	1343.34
9 Chronic kidney disease	774.37	9 Chronic kidney disease	1304.03
10 Cirrhosis and other chronic liver diseases	647.68	10 Hypertensive heart disease	1181.58
11 Leukemia	544.61	11 Alzheimer's disease and other dementias	1174.16
12 Brain and central nervous system cancer	504.89	12 Tracheal, bronchus, and lung cancer	1051.49
13 Atrial fibrillation and flutter	470.06	13 Cirrhosis and other chronic liver diseases	1002.15
14 Colon and rectum cancer	440.05	14 Diabetes mellitus type 2	940.12
15 Stomach cancer	394.09	15 Leukemia	671.62
16 Interstitial lung disease and pulmonary sarcoidosis	378.95	16 Ischemic stroke	642.86
17 Liver cancer	361.78	17 Brain and central nervous system cancer	600.85
18 Breast cancer	302.49	18 Chronic obstructive pulmonary disease	598.9
19 Pancreatic cancer	287.64	19 Colon and rectum cancer	554.54
20 Urinary tract infections and interstitial nephritis	265.04	20 Interstitial lung disease and pulmonary sarcoidosis	541.11
22 Hypertensive heart disease		21 Stomach cancer	
29 Other cardiomyopathy		22 Atrial fibrillation and flutter	
34 Alzheimer's disease and other dementias		23 Liver cancer	
98 Ischemic stroke		25 Breast cancer	
164 Chronic obstructive pulmonary disease		27 Pancreatic cancer	
165 Diabetes mellitus type 2		31 Urinary tract infections and interstitial nephritis	

### Leading causes of death before and after garbage code redistribution: Thailand - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



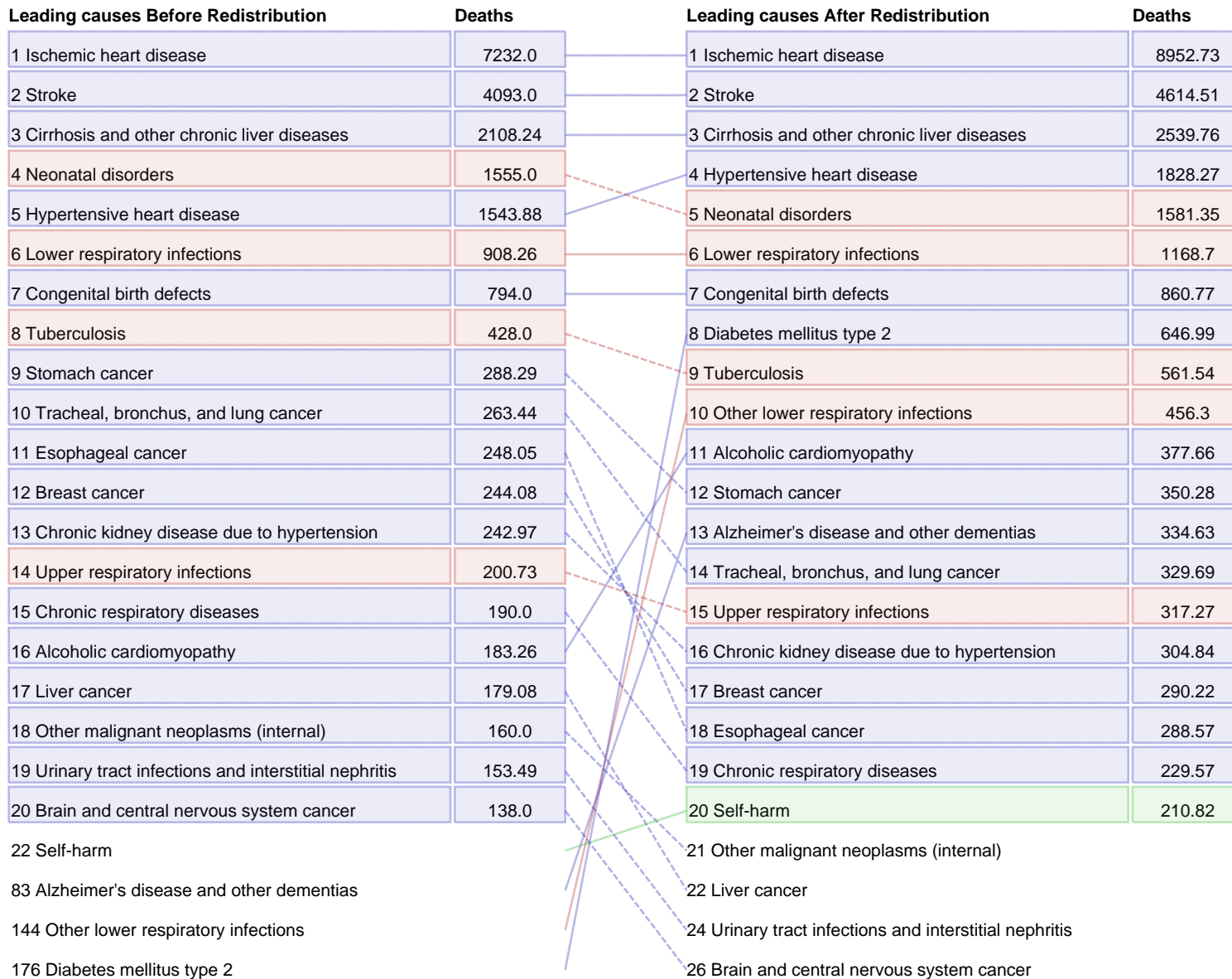
### Leading causes of death before and after garbage code redistribution: Tajikistan - 2005.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



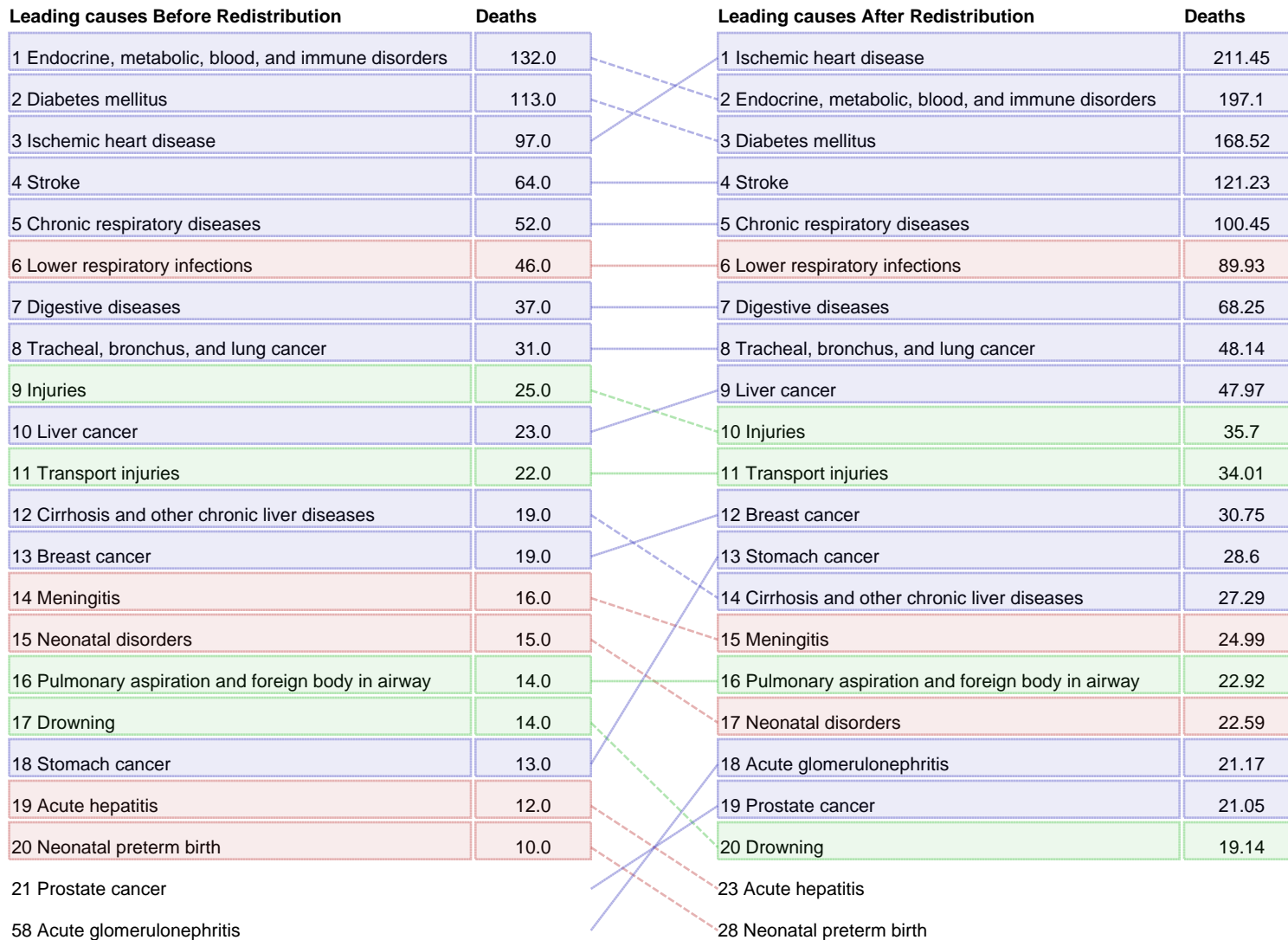
# Leading causes of death before and after garbage code redistribution: Turkmenistan - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



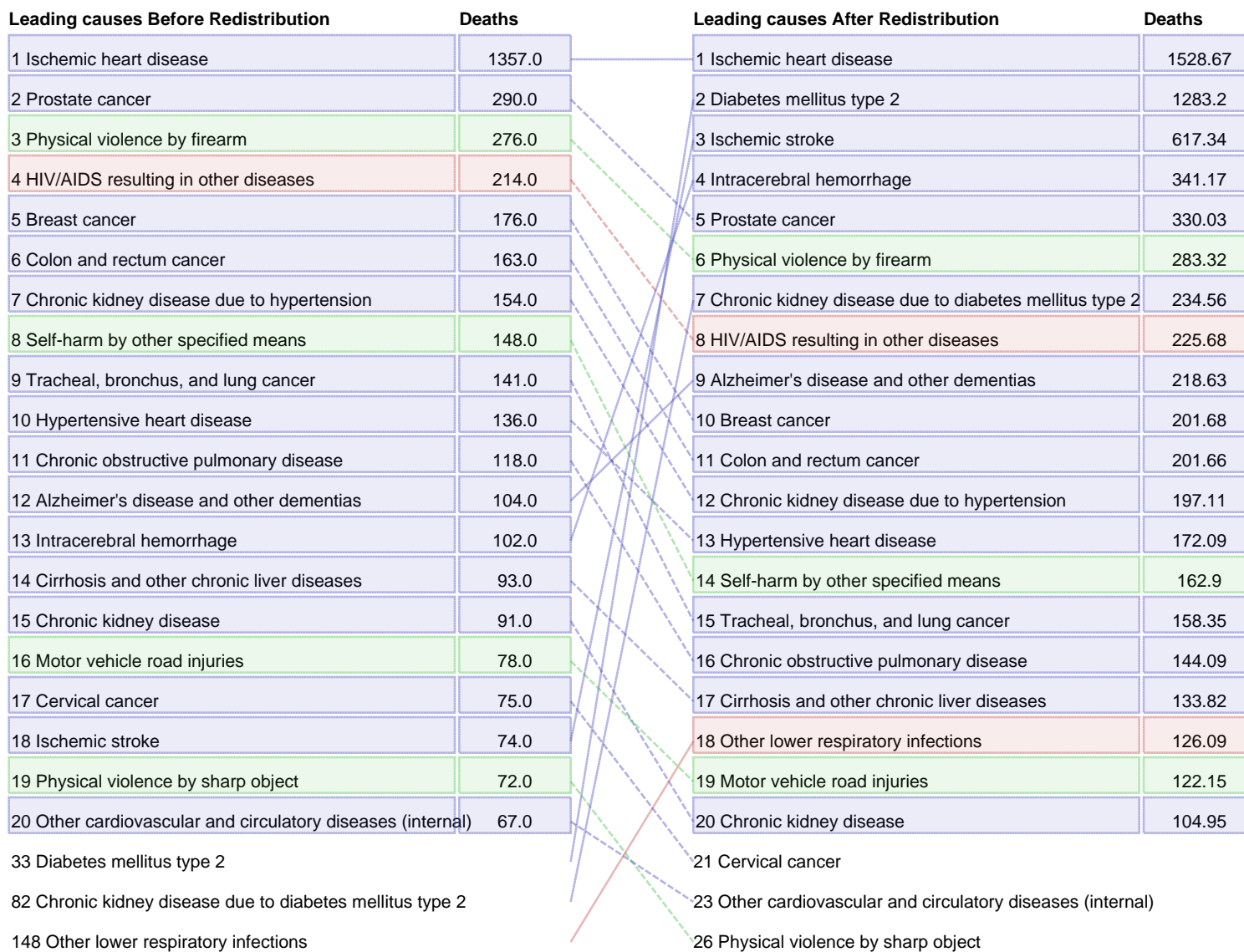
### Leading causes of death before and after garbage code redistribution: Tonga - 2003.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



### Leading causes of death before and after garbage code redistribution: Trinidad and Tobago - 2012.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



# Leading causes of death before and after garbage code redistribution: Tunisia - 2013.

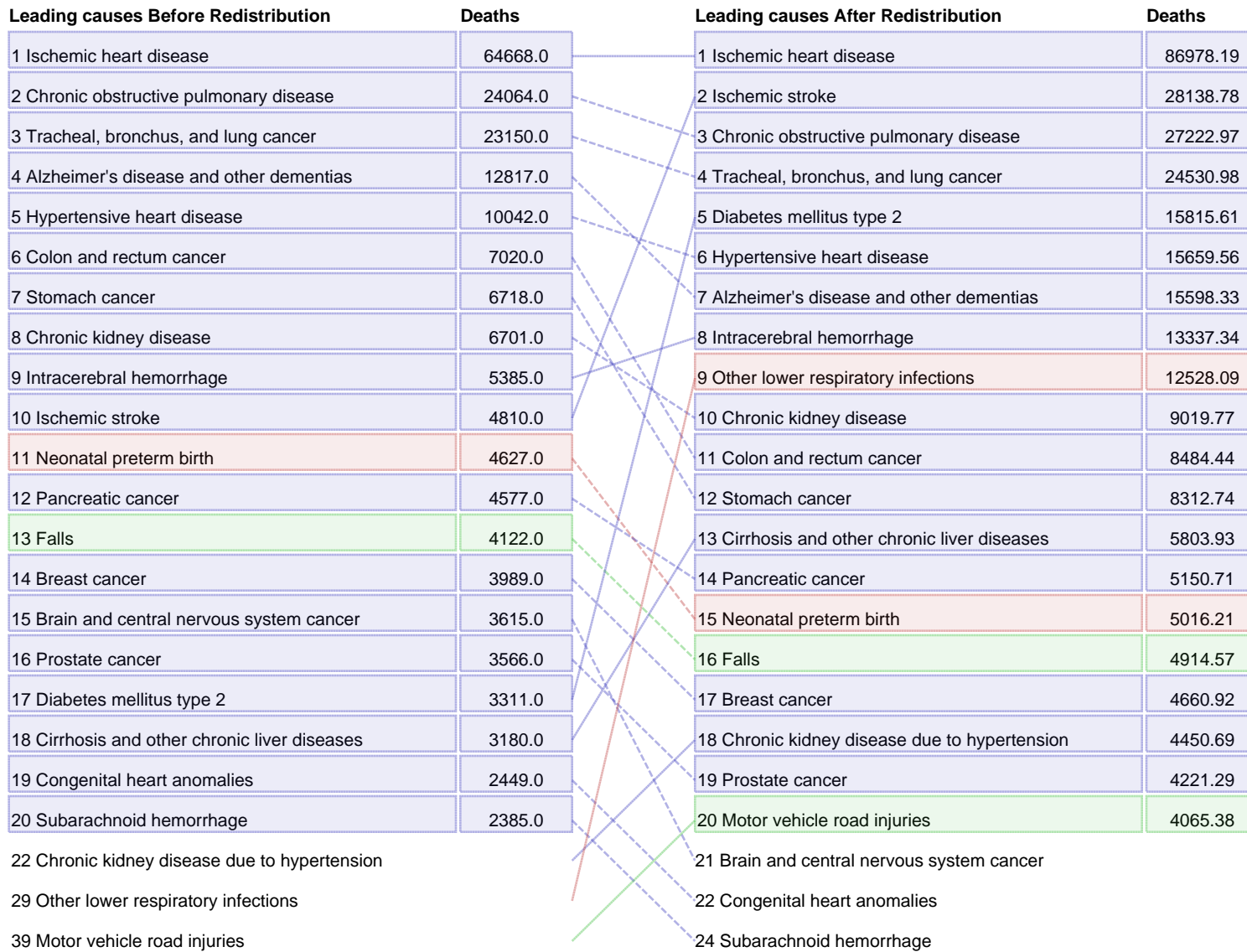
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





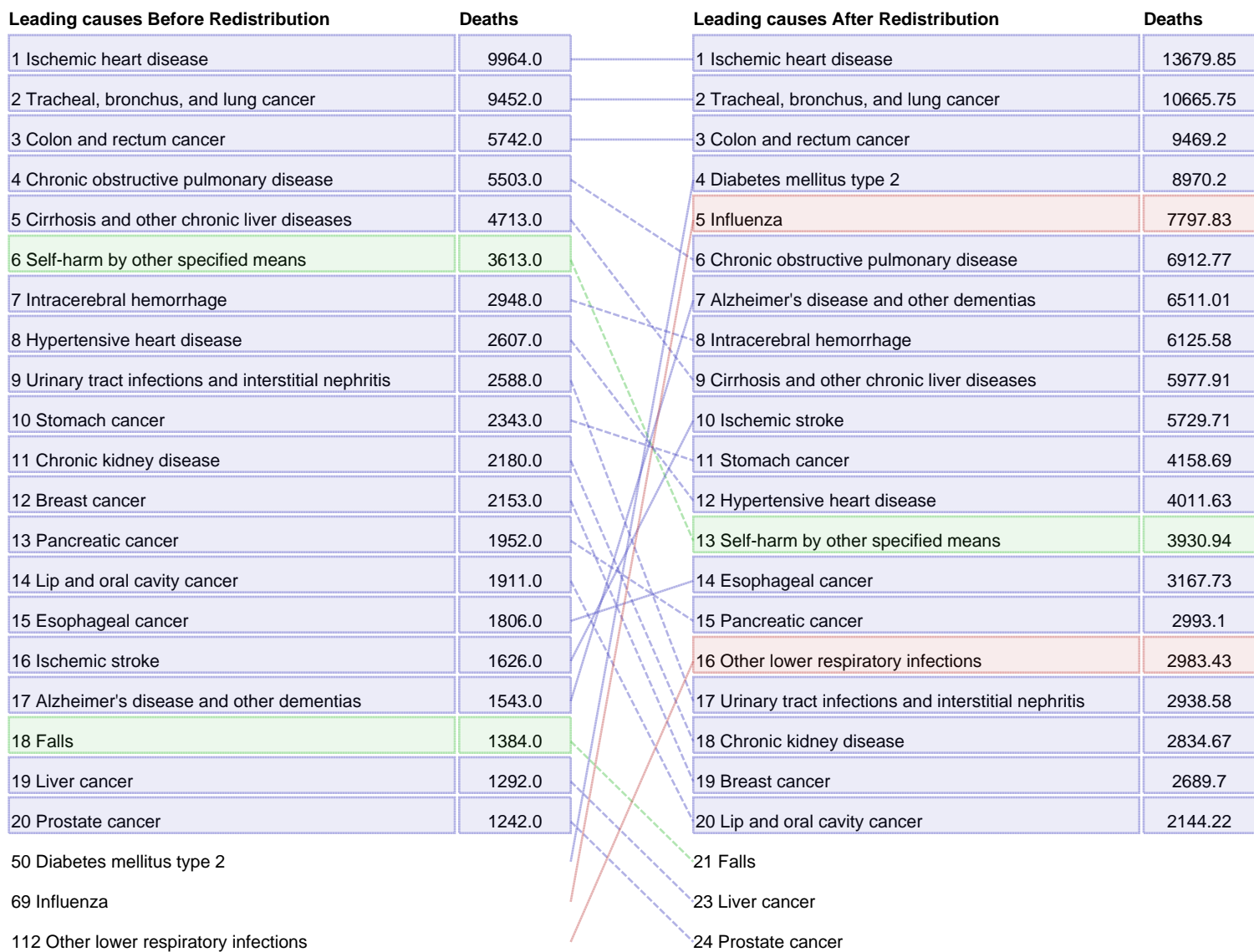
### Leading causes of death before and after garbage code redistribution: Turkey - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



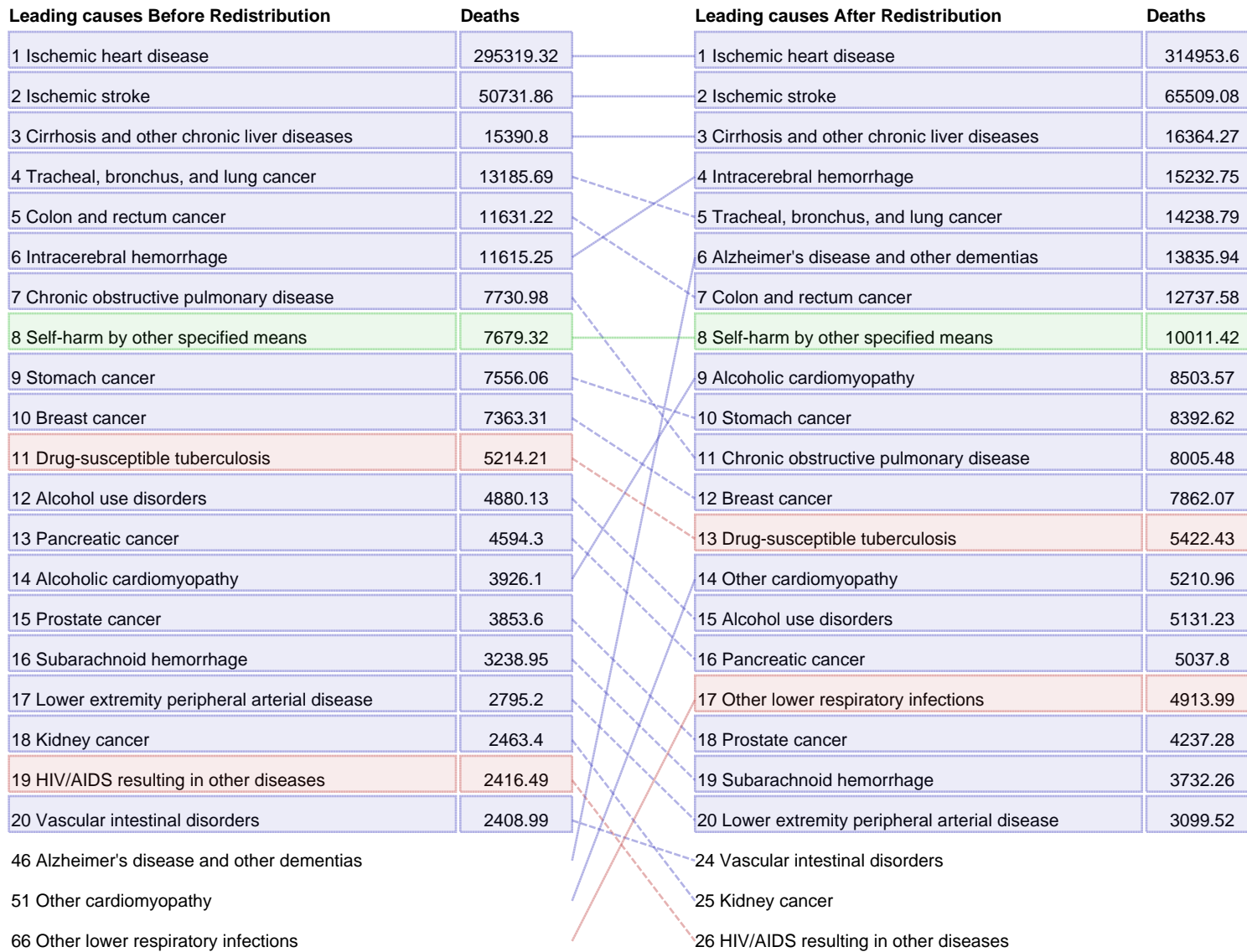
### Leading causes of death before and after garbage code redistribution: Taiwan (Province of China) - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



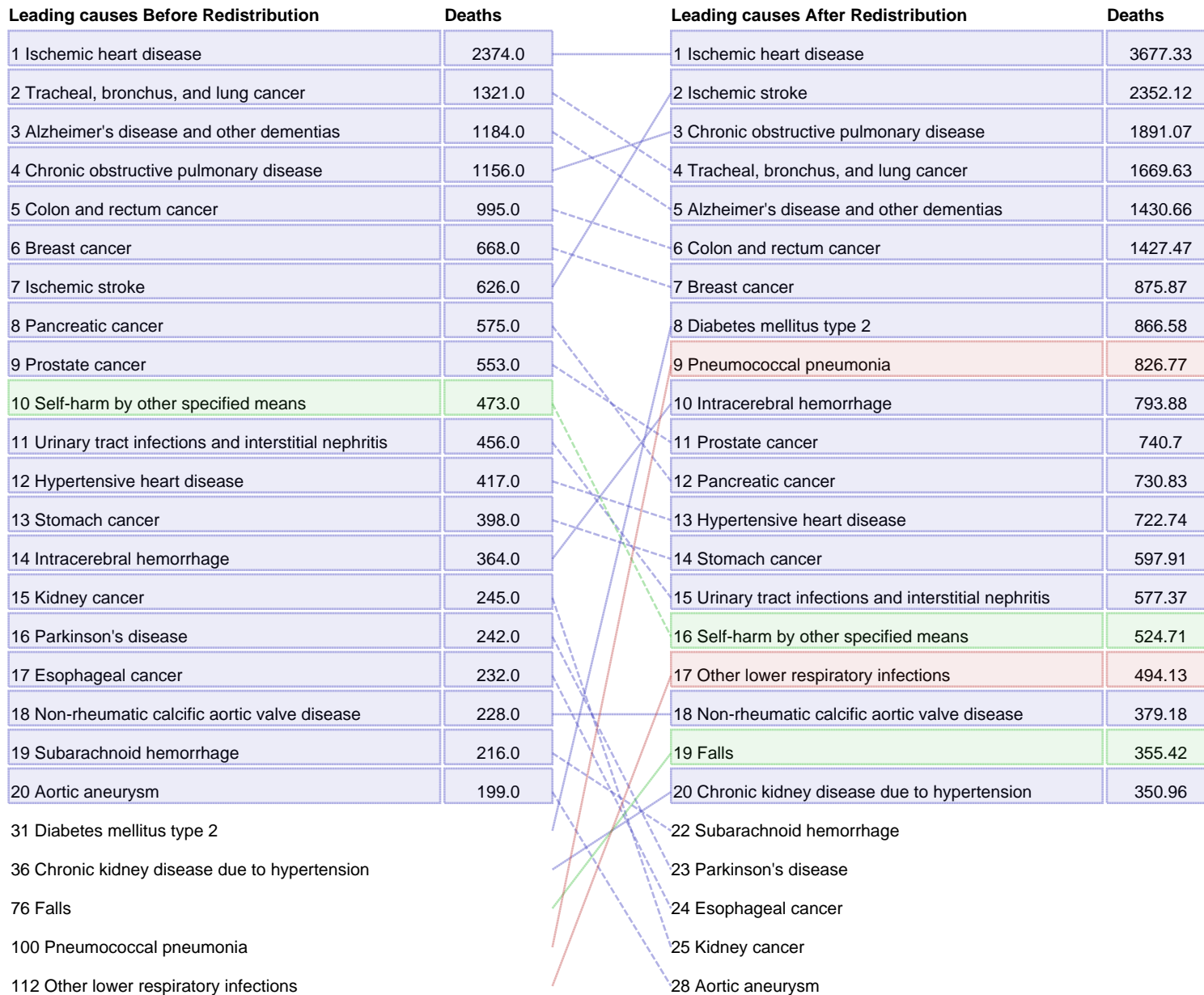
### Leading causes of death before and after garbage code redistribution: Ukraine - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



# Leading causes of death before and after garbage code redistribution: Uruguay - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



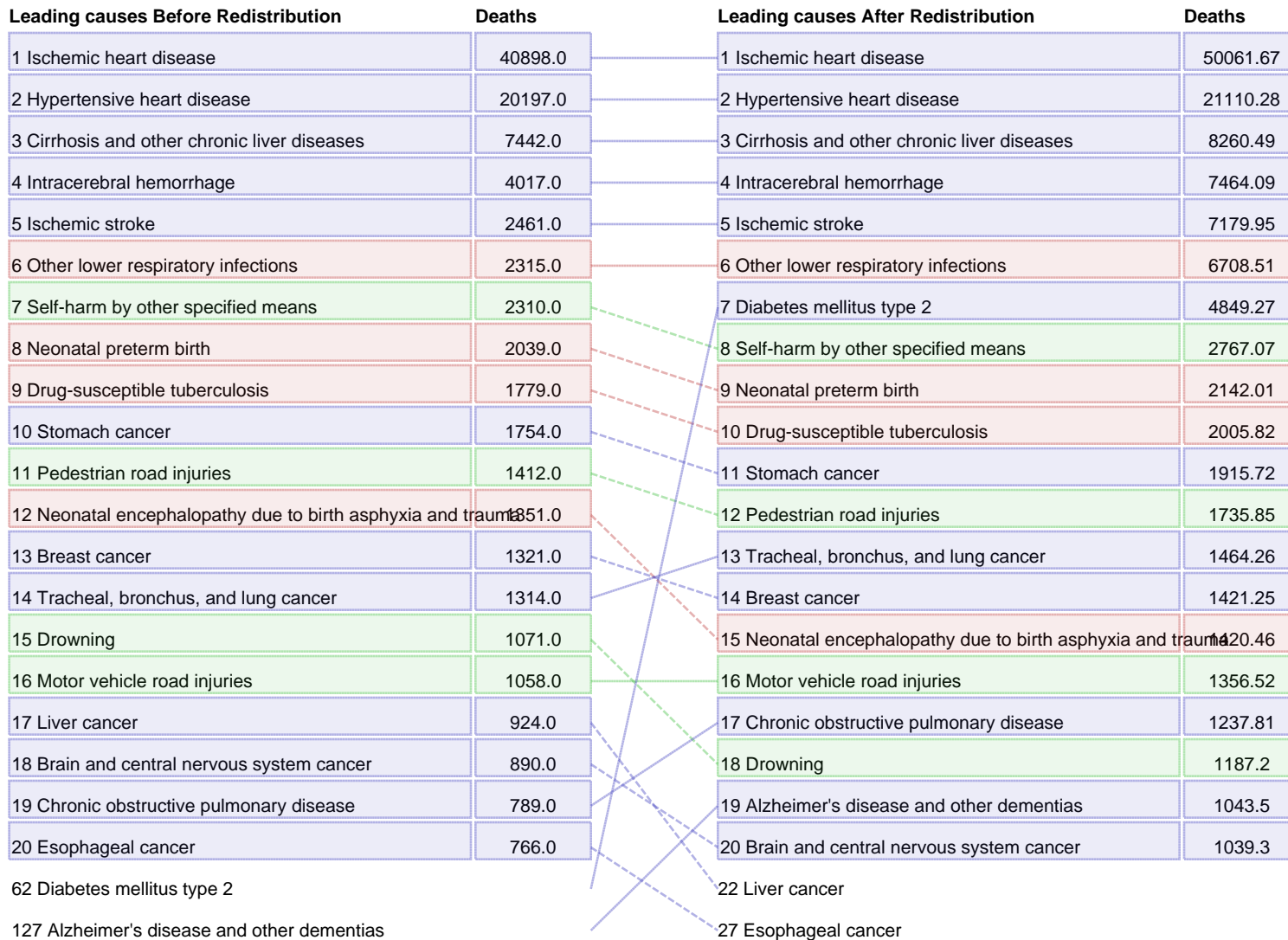
# Leading causes of death before and after garbage code redistribution: United States of America - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



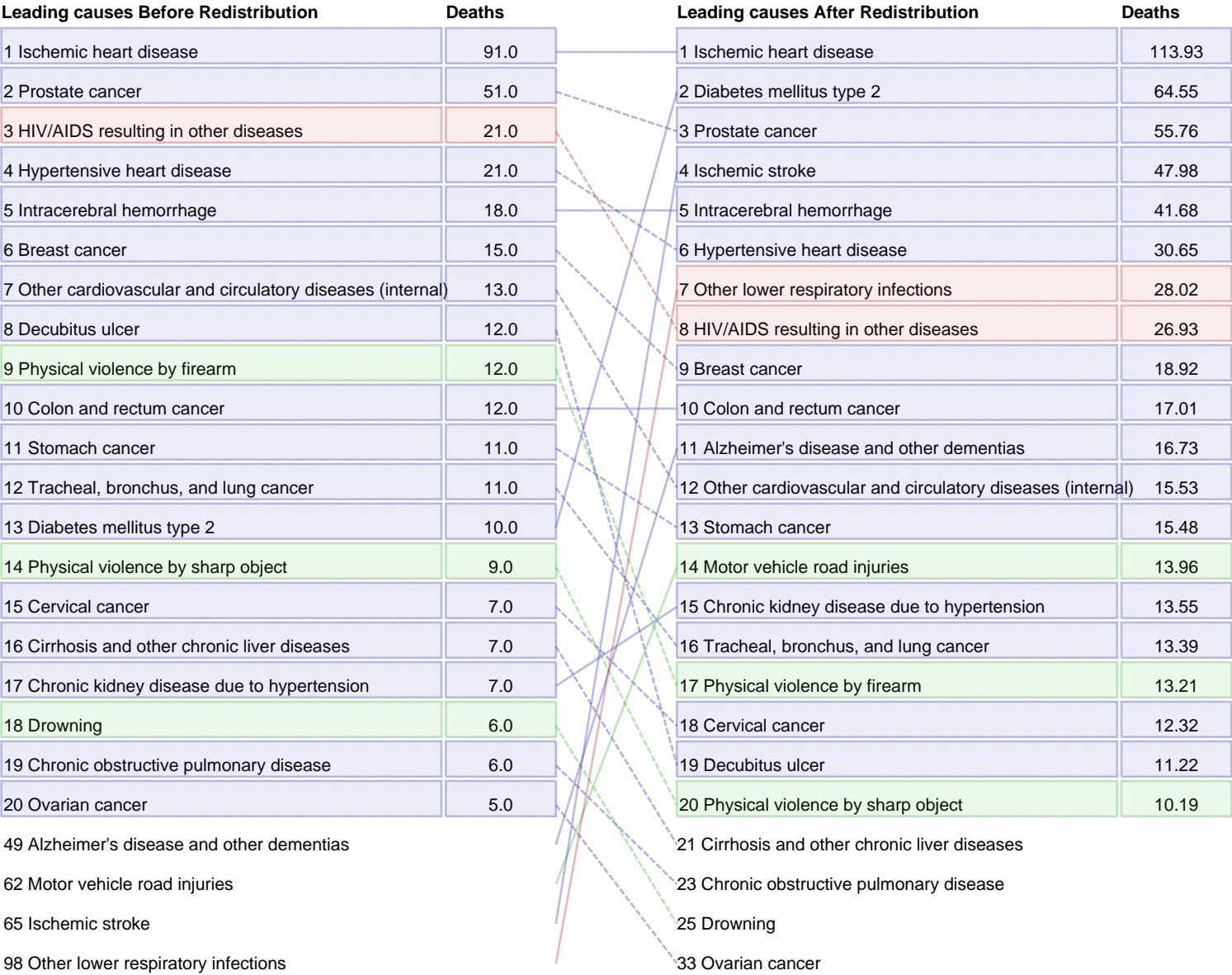
### Leading causes of death before and after garbage code redistribution: Uzbekistan - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



Leading causes of death before and after garbage code redistribution: Saint Vincent and the Grenadines - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





# Leading causes of death before and after garbage code redistribution: Venezuela (Bolivarian Republic of) - 2014.

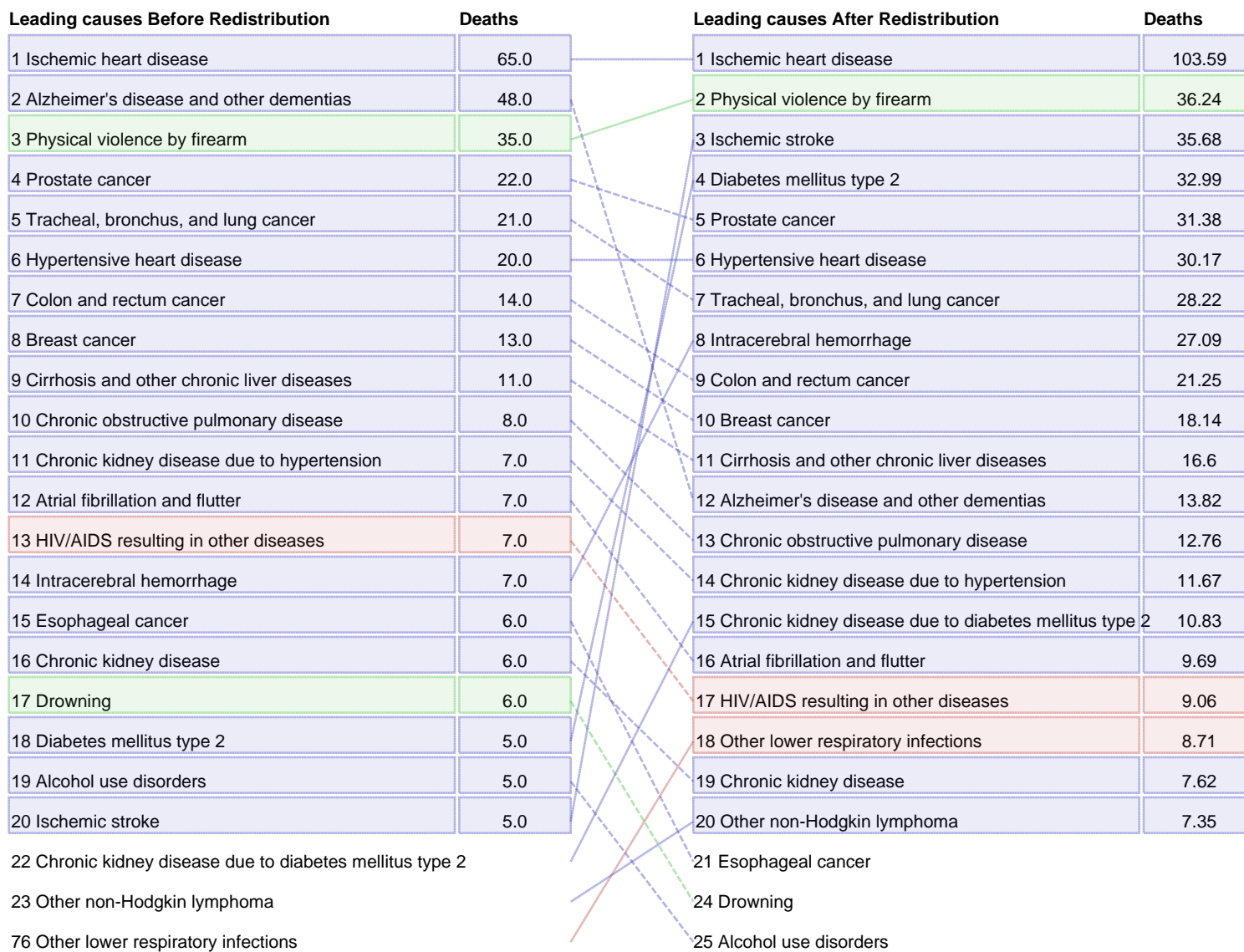
Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.





# Leading causes of death before and after garbage code redistribution: United States Virgin Islands - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.



# Leading causes of death before and after garbage code redistribution: South Africa - 2015.

Causes are connected by arrows before and after redistribution. Infectious diseases are shown in red, non-communicable causes in blue, and injuries in green. In addition to garbage redistribution, the diagram also reflects the deaths moved during misassignment correction for Alzheimer's disease and other dementias.

## Leading causes Before Redistribution

## Deaths

1 Drug-susceptible tuberculosis	33530.0
2 HIV/AIDS resulting in other diseases	22482.0
3 Other unspecified infectious diseases	16396.9
4 Ischemic heart disease	12662.0
5 Diarrheal diseases	10082.0
6 Chronic obstructive pulmonary disease	8654.0
7 Hypertensive heart disease	7167.0
8 Physical violence by sharp object	6547.0
9 Tracheal, bronchus, and lung cancer	5728.0
10 Unintentional firearm injuries	5714.0
11 Asthma	3802.0
12 Neonatal preterm birth	3689.0
13 Cervical cancer	3688.0
14 Idiopathic epilepsy	3598.0
15 Breast cancer	3478.0
16 Prostate cancer	3091.0
17 Meningitis	3035.0
18 Esophageal cancer	2868.0
19 Cirrhosis and other chronic liver diseases	2737.0
20 Colon and rectum cancer	2678.0

## Leading causes After Redistribution

## Deaths

1 HIV/AIDS	48653.27
2 Drug-susceptible tuberculosis	38080.84
3 HIV/AIDS resulting in other diseases	29954.94
4 Diabetes mellitus type 2	27899.54
5 Ischemic heart disease	23173.51
6 Other unspecified infectious diseases	18707.03
7 Intracerebral hemorrhage	15533.29
8 Ischemic stroke	15412.85
9 Influenza	14917.2
10 Diarrheal diseases	14486.88
11 Hypertensive heart disease	13686.09
12 Chronic obstructive pulmonary disease	13205.95
13 Other lower respiratory infections	10267.01
14 Physical violence by sharp object	7698.79
15 Tracheal, bronchus, and lung cancer	7412.54
16 Unintentional firearm injuries	6268.57
17 Motor vehicle road injuries	6023.25
18 Chronic kidney disease due to hypertension	5573.99
19 Self-harm by other specified means	5289.56
20 Alzheimer's disease and other dementias	5117.31

21 Intracerebral hemorrhage

23 Chronic kidney disease due to hypertension

26 Alzheimer's disease and other dementias

29 Diabetes mellitus type 2

58 Motor vehicle road injuries

65 Ischemic stroke

67 Other lower respiratory infections

71 Influenza

74 Self-harm by other specified means

196 HIV/AIDS

22 Cirrhosis and other chronic liver diseases

24 Breast cancer

25 Asthma

26 Cervical cancer

27 Prostate cancer

28 Meningitis

29 Neonatal preterm birth

30 Colon and rectum cancer

32 Esophageal cancer

49 Idiopathic epilepsy

*This figure also captures additional corrections applied prior to redistribution, namely adjustments made for the misdiagnosis of Parkinson's, atrial fibrillation, and Alzheimer's disease and other dementias not discussed in detail in this paper (Appendix Figure 1). Additionally, only real underlying causes are included in this figure. For that reason, one will not see "Garbage Code" listed in the deaths prior to redistribution.*