



Estimated healthcare spending attributable to modifiable risk factors in Western Australia 2018–19

Introduction

Health risk factors are ‘attributes, characteristics or exposures that increase the likelihood of a person developing a disease or health disorder and can be categorised as either behavioural, metabolic or environmental (1,2). Many diseases share risk factors that are largely preventable and can be modified to reduce the risks of developing a disease, which in turn reduces illness and rates of death.

Modifiable risk factors contribute significantly to the total burden of disease and injury experienced by a population. Jointly, all modifiable risk factors in the *The Burden of Disease in Western Australia 2018* report accounted for 186,125 disability adjusted life years (DALYs), equating to 38 per cent of the total burden in Western Australia (WA) in 2018 (1). Approximately half of the fatal burden, 48 per cent of years of life lost (YLL), and just over a quarter of the non-fatal burden, 29 per cent of years lived with disability (YLD) in 2018 were attributable to the joint effects of these risk factors (1).

These modifiable risk factors were behavioural risk factors such as tobacco use and dietary risks, metabolic risk factors such as overweight and high blood pressure, and environmental risk factors such as air pollution and high sun exposure (1). Risk factors which are social determinants or not modifiable such as age and family history, were not included in the analysis.

This bulletin reports on the estimated healthcare expenditure attributable to 20 modifiable risk factors disaggregated by disease group, age group, sex, and area of expenditure for WA during the 2018–19 financial year. Area of expenditure (box 1) includes services provided for disease diagnostics, treatment and management, this excludes spending on new buildings, equipment, public health programs, and indirect costs such as loss of productivity and costs incurred by carers (4).

Methods

The Australian Institute of Health and Welfare (AIHW) provided the disease expenditure data for WA for 2018–19, to derive the healthcare costs associated with the risk factors (3). Healthcare services are grouped as hospitals, primary healthcare and referred medical services (see box 1 for details). A detailed description of mapping the healthcare expenditure to 219 diseases can be found in the *Disease Expenditure Study: Overview of analysis and methodology report* (4). Briefly, a mix of ‘top-down’ and ‘bottom-up’ approaches were used, where the total expenditure across the health system was estimated and then allocated to relevant conditions based on the available service use data.

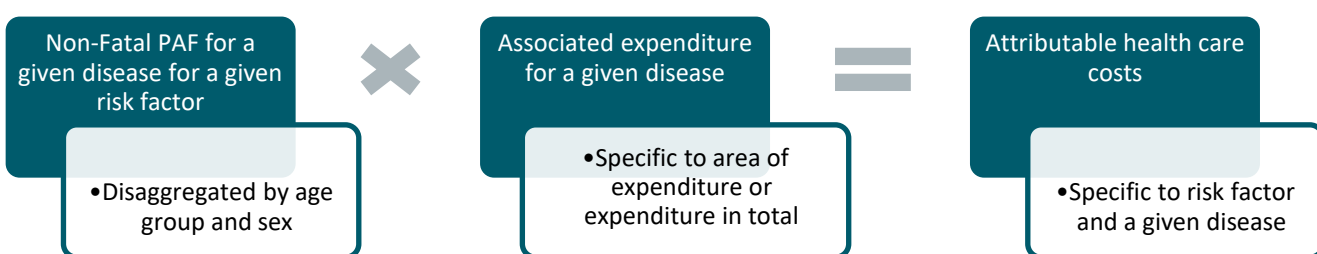
Box 1: Area of expenditure

- admitted patient (public and private)
- emergency department (public only)
- outpatient hospital services (public only)
- primary health care includes allied health, general practitioner, and pharmaceutical benefits scheme
- referred medical services includes specialists, pathology, and medical imaging.

To calculate the healthcare costs attributable to the modifiable risk factors, we used nationally derived population attributable fractions (PAFs) from the 2018 Australian Burden of Disease Study (ABDS) for each condition and risk factor, disaggregated by age group and sex (3). The PAFs determine the proportion of a particular disease that could have potentially been avoided if the population had never been exposed to a risk factor. PAFs are calculated for each linked disease by year, sex, and age group by applying the relative risk and the prevalence of exposure to specific risk factors (3). Detailed descriptions and formulas for the calculations of PAFs can be found in the *ABDS methods and supplementary materials report* (3).

PAFs have values between 0 and 1, where 0 means there is no burden attributable to the risk factor and 1 means that all the burden for the linked disease is attributable to the risk factor. PAFs were multiplied by the associated expenditure for each relevant disease. The dental expenditure area did not contain the age or sex disaggregation required to apply the PAFs and was not included (4).

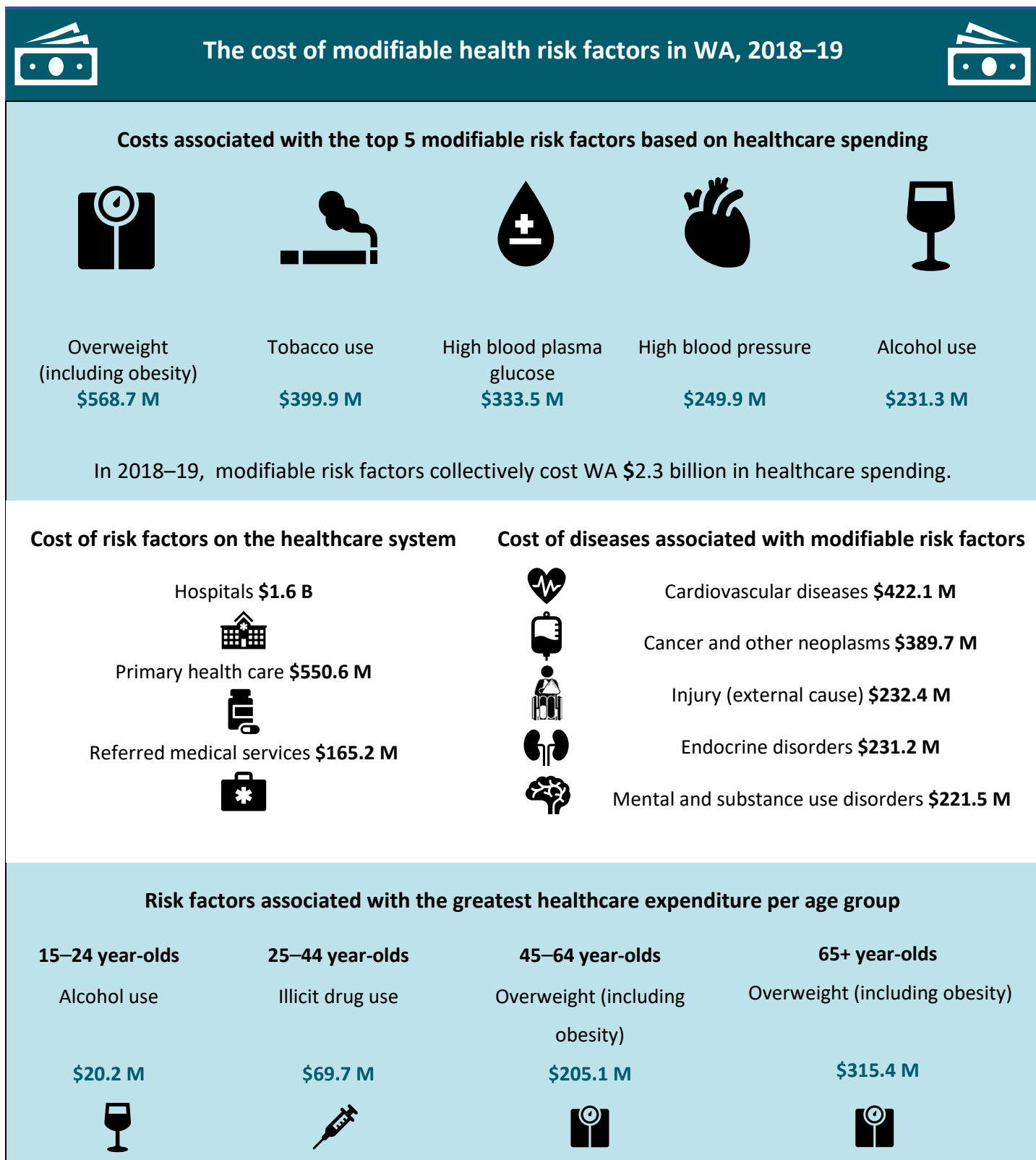
Box 2. Process and example to calculate attributable healthcare costs



Example: calculation of the total health care expenditure for coronary heart disease among females aged 25 to 29 attributable to physical inactivity.

$$0.14235 \times \$95,905.29 = \$13,652.33$$

The costs attributable to risk factors do not include all the healthcare costs associated with their management. For example, in the case of iron deficiency, selected costs associated with managing this risk factor such as use of non-subsidised iron supplements, are not included. Dental expenditure was excluded as age and sex specific data was not available to link with PAFs for risk factors. Skin and oral disorders were also excluded as PAFs were not available for these disease groups. Following the ABDS 2018 methodology, risk factors such as sub-optimal breastfeeding, social determinants of health (e.g. factors such as income, level of education, employment status) were not included in this bulletin. Throughout this bulletin the terms 'modifiable risk factors' and 'risk factors' are used interchangeably. Finally, results from this bulletin cannot be compared with results from other studies and reports due to methodological differences.



Notes: M = million, B = billion

Results

In 2018–19, the 20 modifiable risk factors combined were responsible for an estimated \$2.3 billion of WA healthcare spending. The attributable healthcare spending for males (\$1,271 million) was higher than that for females (\$1,052 million). When considering the risk factors individually, females had much higher healthcare expenditure for 3 risk factors (low mineral bone density, child abuse and neglect and intimate partner violence) in comparison to males (figure 1).

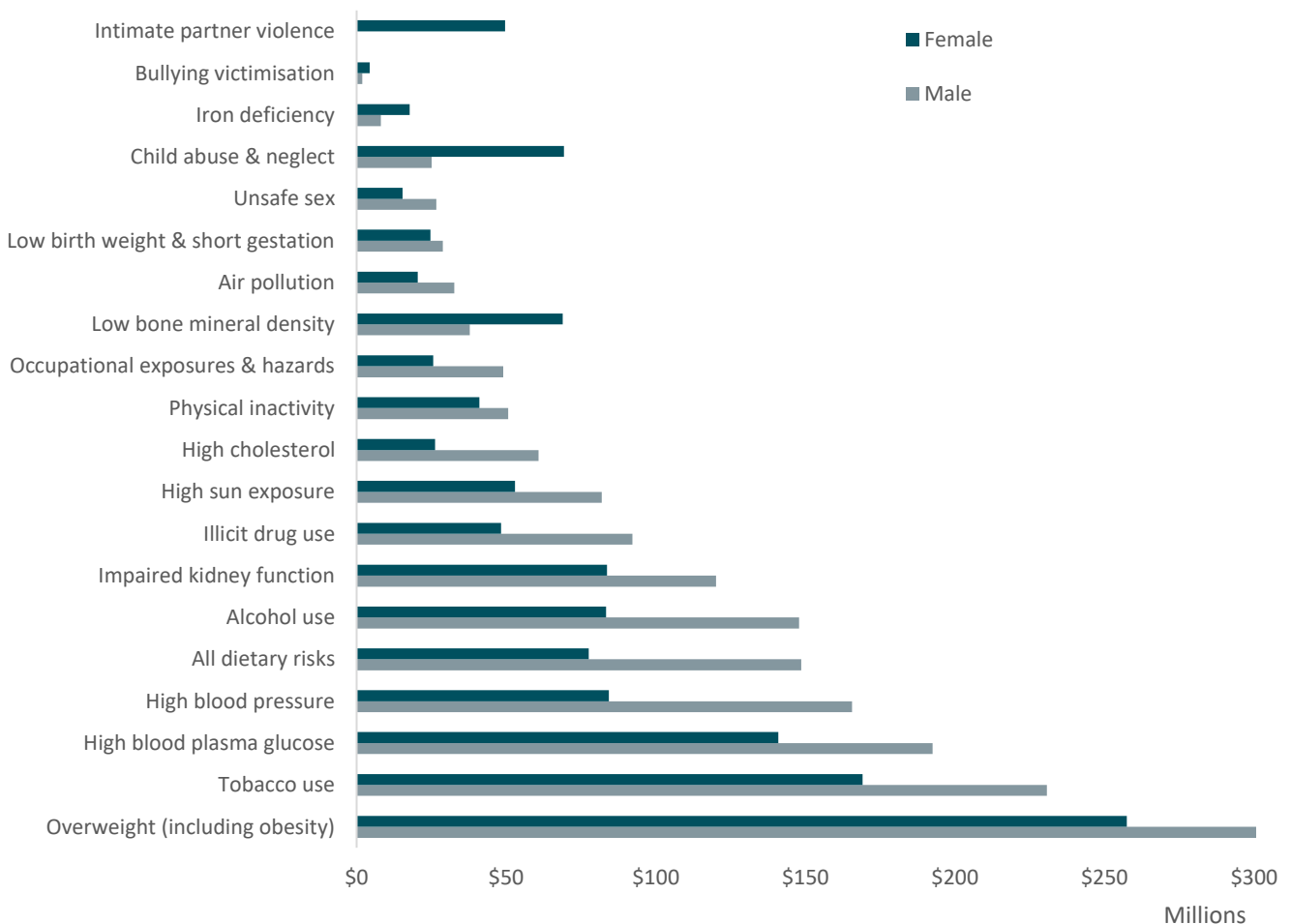


Figure 1. Costs associated with all modifiable risk factors by sex, 2018–19.

The highest spending attributable to the modifiable risk factors was on hospital care (\$1,606.3 million), followed by primary healthcare (\$550.6 million) and referred medical services (\$165.2 million). The trends for healthcare expenditure across the 3 service areas were similar across all age groups. (figure 2). Those under 1 year of age had a higher hospital expenditure compared to the other age groups between 1 to 34 years due to spending on low birth weight and short gestation. We observed an increase in expenditure from 1 year of age to 74 years for hospitals and referred medical services and up to the age of 69 years for primary healthcare, and a sharp decrease in expenditure for the age group 80 to 84 years with the expenses increasing again for those aged 85 years and above. Estimates of attributable spend on oral disorders (a total of \$93.6 million) and skin disorders (a total of \$414.3 million) were excluded due to the inability to link the expenditure and the risk factors.

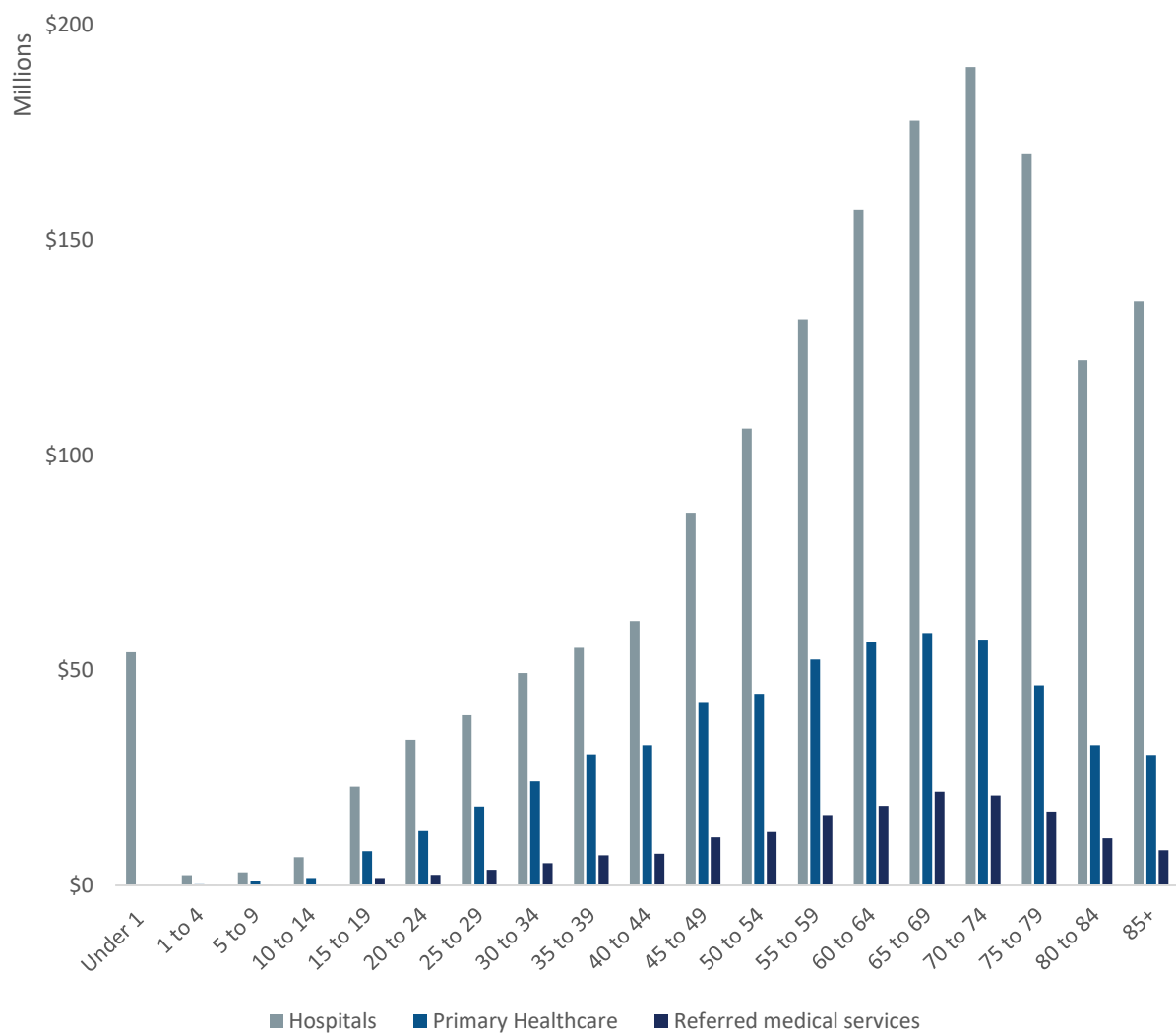


Figure 2. Healthcare expenditure attributable to combined risk factors by age group, 2018–19.

Healthcare expenditure attributable to individual risk factors

When the risk factors were considered individually, the top 5 risk factors contributing to WA healthcare expenditure were overweight (including obesity), tobacco use, high blood plasma glucose, high blood pressure and alcohol use (table 1). Overweight (including obesity) was the risk factor associated with the highest expenditure, costing the State an estimated \$568.7 million (74.6 per cent on hospitals, 19.5 per cent on primary healthcare, and 5.8 per cent on referred medical services). For most risk factors, the majority of spending was on hospital care with the exception of unsafe sex, where the majority of spending was on primary healthcare (66.1 per cent). Illicit drug use, child abuse and neglect, and bullying victimisation had a relatively higher proportion of costs attributable to primary healthcare compared to other risk factors. Similarly, high sun exposure, overweight (including obesity) and high blood plasma glucose had a relatively higher proportion of costs attributable to referred medical services compared to other risk factors.

Table 1. Contribution of health expenditure (in millions of dollars) by individual risk factor and area of expenditure in WA, 2018–19.

Risk Factor*	Total**	Hospitals	Primary health care	Referred medical services
Overweight (including obesity)	568.7	424.5 (74.6%)	111.0 (19.5%)	33.2 (5.8%)
Tobacco use	399.9	271.4 (67.9%)	103.9 (26.0%)	24.6 (6.2%)
High blood plasma glucose	333.5	193.6 (58.1%)	112.4 (33.7%)	27.5 (8.3%)
High blood pressure	249.9	209.2 (83.7%)	29.9 (12.0%)	10.8 (4.3%)
Alcohol use	231.3	183.1 (79.2%)	34.6 (15.0%)	13.6 (5.9%)
All dietary risks	226.2	169.2 (74.8%)	44.2 (19.5%)	12.8 (5.7%)
Impaired kidney function	203.9	182.3 (89.4%)	16.1 (7.9%)	5.4 (2.7%)
Illicit drug use	140.5	72.5 (51.6%)	63.8 (45.5%)	4.2 (3.0%)
High sun exposure	134.9	69.1 (51.2%)	31.4 (23.3%)	34.3 (25.5%)
Low bone mineral density	106.7	95.2 (89.3%)	6.0 (5.7%)	5.4 (5.1%)
Child abuse and neglect	94.4	44.6 (47.3%)	43.2 (45.8%)	6.6 (7.0%)
Physical inactivity	91.7	62.9 (68.5%)	23.1 (25.2%)	5.8 (6.3%)
High cholesterol	87.0	74.9 (86.0%)	7.4 (8.5%)	4.8 (5.5%)
Occupational exposures and hazards	74.6	47.6 (63.8%)	17.5 (23.5%)	9.5 (12.7%)
Low birth weight and short gestation	53.5	53.3 (99.8%)	0.0 (0.1%)	0.1 (0.2%)
Air pollution	53.0	40.2 (75.8%)	10.1 (19.1%)	2.7 (5.1%)
Intimate partner violence	49.7	28.1 (56.6%)	18.0 (36.3%)	3.6 (7.2%)
Unsafe sex	42.1	11.4 (27.1%)	27.8 (66.1%)	2.9 (6.8%)
Iron deficiency	25.8	15.9 (61.6%)	8.4 (32.4%)	1.5 (6.0%)
Bullying victimisation	6.3	3.5 (55.5%)	2.5 (39.3%)	0.3 (5.2%)
Total (combined risk factors)***	2,322	1,606 (69.2%)	550.6 (23.7%)	165.2 (7.1%)

*Definitions of risk factors can be found here [Australian Burden of Disease Study: Methods and supplementary material 2018, Risk factor specific methods - Australian Institute of Health and Welfare \(aihw.gov.au\)](#). **The dental and skin expenditure area has not been included. ***The cost of individual risk factors cannot be added together to determine the total expenditure attributable to all risk factors as this does not account for the interaction between them. Consequently, the sums of the columns do not equal the totals given.

Expenditure areas for the top 5 risk factors contributing to the highest healthcare expenditure

Hospital costs include expenditure on public and private hospitals (i.e. public and private inpatient admissions, public emergency department presentations, and public outpatient clinics). Public hospital admissions accounted for the largest proportion of spending attributable to alcohol use (36.2 per cent), tobacco use (32.9 per cent) and high blood plasma glucose (26.0 per cent) while private hospital services accounted for the largest proportion spending attributable to high blood pressure (36.6 per cent) and overweight (including obesity) (33.6 per cent) (figure 3).

Of the risk factors considered for 2018–19, overweight (including obesity) attributed to the highest costs for majority of areas of expenditure (private hospital services, public admitted patient, public hospital outpatient, pharmaceutical benefits and public hospital outpatient). The highest costs for general practitioner services were attributed to high blood plasma glucose (\$26.4 million) while the highest costs for public hospital emergency department presentations were attributed to alcohol use (\$36.3 million), followed by tobacco use (\$23.5 million).

Rank	Overweight (incl. Obesity)	Tobacco Use	High Blood Plasma Glucose	High blood pressure	Alcohol Use
1 st	Private hospital services, \$190.9M, 33.6%	Public hospital admitted patient, \$131.5M, 32.9%	Public hospital admitted patient, \$86.8M, 26.0%	Private hospital services, \$91.5M, 36.6%	Public hospital admitted patient, \$83.6M, 36.2%
2 nd	Public hospital admitted patient, \$162.4M, 28.6%	Pharmaceutical benefits scheme, \$81.5M, 20.4%	Pharmaceutical benefits scheme, \$81.8M, 24.5%	Public hospital admitted patient, \$82.3M, 32.9%	Private hospital services, \$44.3M, 19.1%
3 rd	Pharmaceutical benefits scheme, \$83.1M, 14.6%	Private hospital services, \$77.6M, 19.4%	Public hospital outpatient, \$51.9M, 15.6%	Public hospital outpatient, \$24.3M, 9.7%	Public hospital emergency department, \$36.3M, 15.7%
4 th	Public hospital outpatient, \$55.5M, 9.8%	Public hospital outpatient, \$38.7M, 9.7%	Private hospital services, \$50.0M, 15.0%	Pharmaceutical benefits scheme, \$22.9M, 9.2%	Pharmaceutical benefits scheme, \$19.5M, 8.4%
5 th	General practitioner services, \$25.4M, 4.5%	Public hospital emergency department, \$23.5M, 5.9%	General practitioner services, \$26.4M, 7.9%	Public hospital emergency department, \$11.1M, 4.5%	Public hospital outpatient, \$18.8M, 8.1%

Figure 3. Top 5 areas of healthcare expenditure for risk factors with the highest healthcare expenditure in WA, 2018–19. M = Million, % = percentage of overall healthcare expenditure spent on an area for each risk factor.

Healthcare spending attributable to risk factors by disease group

Combined, modifiable risk factors were responsible for an estimated \$422.1 million spending on cardiovascular diseases, \$389.7 million on cancers and other neoplasms, and \$232.4 million on injury (external cause) (table 2). This represented 37.7 per cent, 31.2 per cent and 23.6 per cent of total healthcare spending for these disease groups respectively for 2018–19. Healthcare spending on these 3 disease groups represented 45.0 per cent of all spending attributable to risk factors combined. For cardiovascular diseases, an estimated \$188.5 million of healthcare spending was attributable to high blood pressure, \$138.7 million to all dietary risks, and \$118.5 million to overweight (including obesity) (see appendix, table 3). For cancer and other neoplasms, \$134.9 million of healthcare spending was attributable to high sun exposure, \$116.6 million to tobacco use, and \$58.3 million to overweight (including obesity). For injuries (external cause), \$108.7 million and \$106.7 million of healthcare spending was attributable to alcohol use and low bone mineral density respectively.

For the majority of disease groups, the highest healthcare expenditures were related to hospitals, except for infectious diseases for which the highest expenditures were related to primary health care (\$81.9 million, figure 4). The highest healthcare expenditure related to referred specialist services were attributed to cancer and other neoplasms (\$48.5 million, 29.3 per cent) followed by cardiovascular diseases (\$24.9 million, 15.1 per cent).

Table 2. WA healthcare expenditure (in millions of dollars) attributable to combined risk factors by disease group, 2018–19.

Disease group*	Expenditure (exclude dental) by disease groups**	Expenditure attributable to joint risk factors (% of total)***	Percentage
Cardiovascular diseases	1,120.7	422.1 (18.2)	37.7
Cancer and other neoplasms	1,248.2	389.7 (16.8)	31.2
Injury (external cause)	983.9	232.4 (10.0)	23.6
Endocrine disorders	312.2	231.2 (10.0)	74.0
Mental and substance use disorders	882.1	221.5 (9.5)	25.1
Musculoskeletal disorders	1,337.0	201.5 (8.7)	15.1
Kidney and urinary diseases	391.5	174.2 (7.5)	44.5
Infectious diseases	758.7	132.2 (5.7)	17.4
Respiratory diseases	411.8	110.5 (4.8)	26.8
Infant and congenital conditions	238.8	53.5 (2.3)	22.4
Gastrointestinal disorders	787.9	48.8 (2.1)	6.2
Hearing and vision disorders	404.9	40.4 (1.7)	10.0
Neurological conditions	388.7	32.1 (1.4)	8.3
Blood and metabolic disorders	620.4	25.8 (1.1)	4.2
Reproductive and maternal conditions	975.4	6.1 (0.3)	0.6
Total	10,862*	2,322 (100)	21.4

*Disease groups with zero spending attributable to risk factors are not included (i.e. oral disorders and skin disorders). **Dental expenditure has been omitted from the healthcare expenditure ***Joint effect cost.

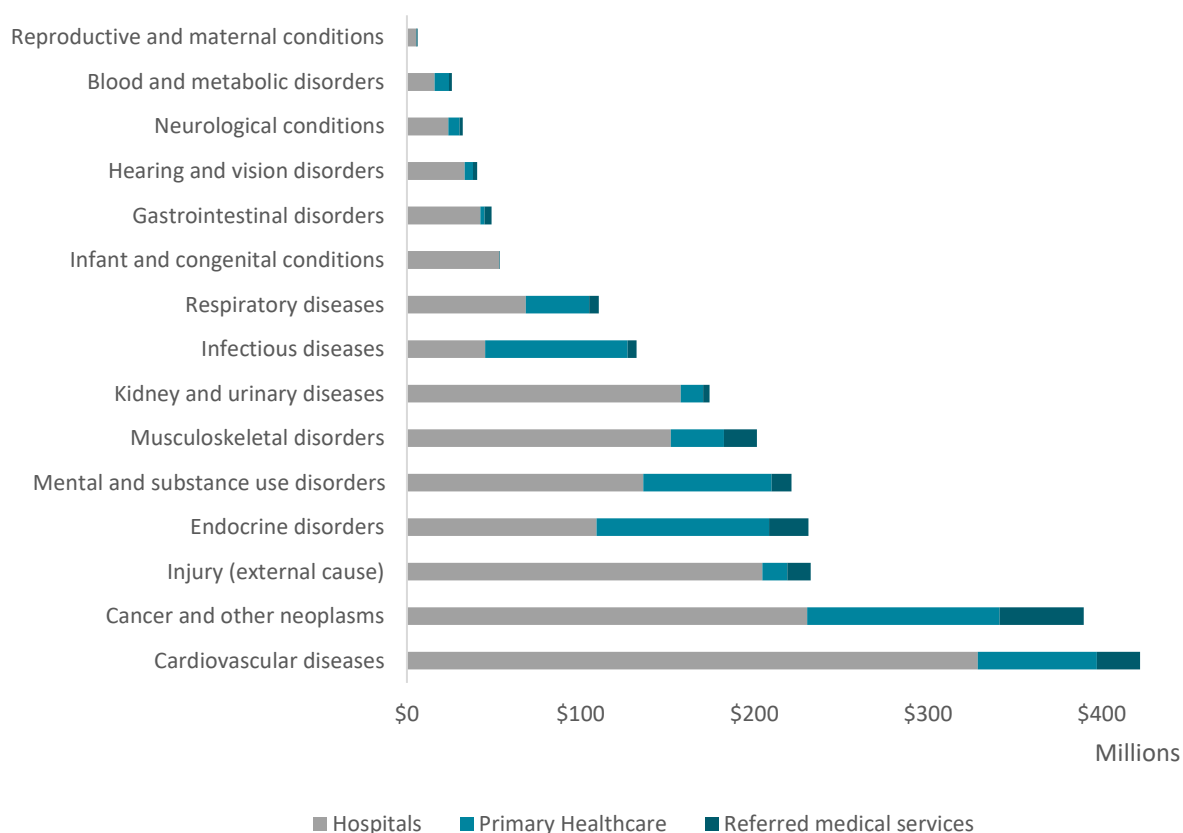


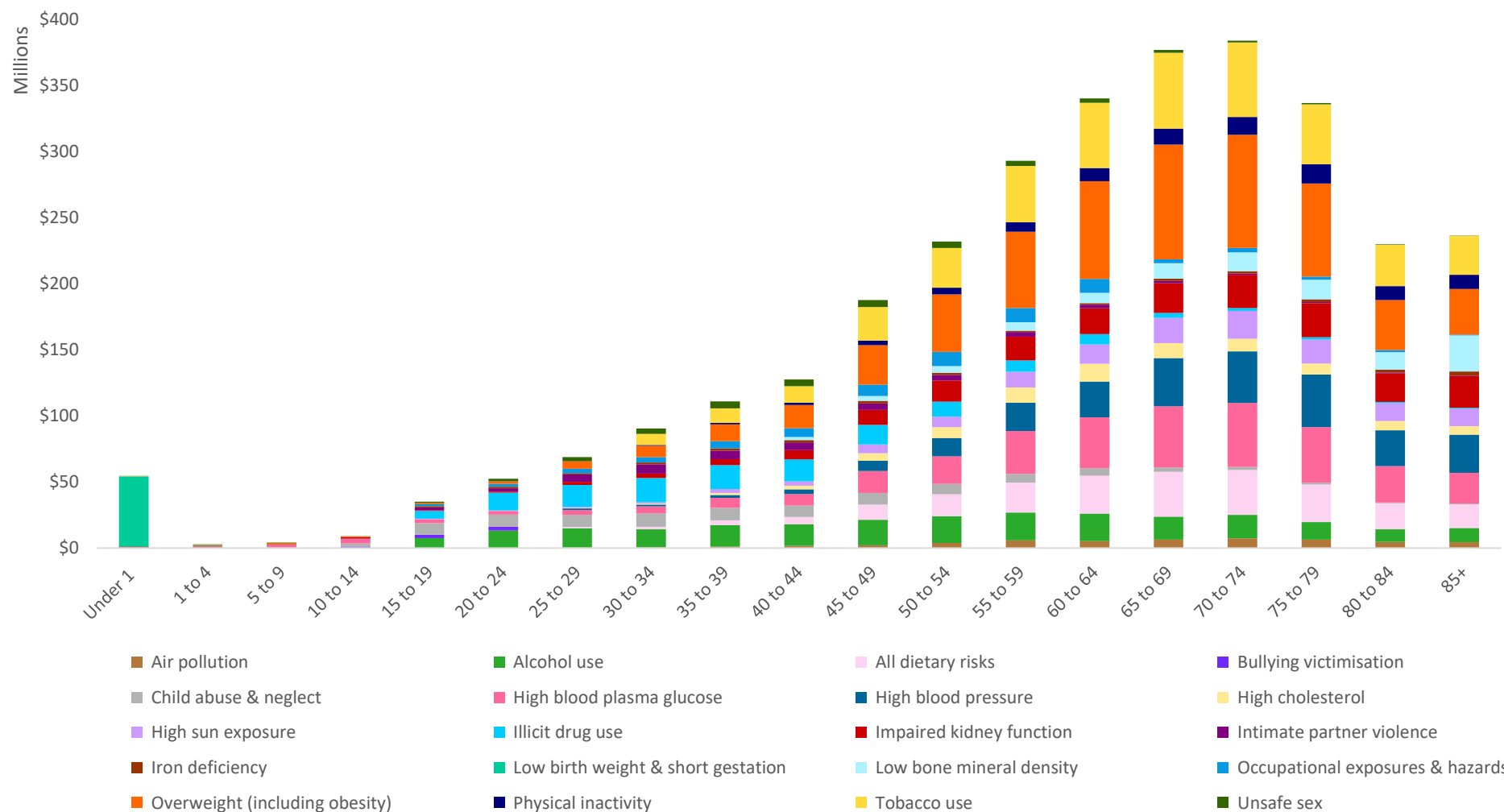
Figure 4. Healthcare expenditure attributable to combined risk factors by disease group, 2018–19

Difference in risk factor attributable cost by age group

In 2018–19, the majority of spending attributable to all risk factors combined was for older Western Australians aged 45 years and above (\$1.8 billion, 79.1 per cent). The age group with the highest proportion of healthcare expenditure attributable to all risk factors combined was 70 to 74 year olds, estimated at \$268.1 million. Conversely, 4.4 per cent (\$102.3 million) of spending attributable to all risk factors combined was associated with the younger population (0 to 19 years). These were derived from the joint effect of risk factors, and were not shown on figure 5.

The risk factors responsible for the highest amount of health expenditure by age group (figure 5) were:

- low birth weight and short gestation (\$53.0 million), air pollution (\$0.9 million) and exposure to tobacco smoke (\$0.2 million) for those under 1 year of age
- high blood plasma glucose (\$6.3 million), child abuse and neglect (\$2.5 million) and impaired kidney function (\$1.6 million) for 1 to 14 year olds
- child abuse and neglect (\$8.9 million), alcohol use (\$7.3 million) and illicit drug use (\$5.7 million) for 15 to 19 year olds
- illicit drug use (\$83.1 million), alcohol use (\$73.7 million), and child abuse and neglect (\$46.4 million) for 20 to 44 year olds
- overweight (including obesity) (\$205.1 million), tobacco use (\$147.4 million) and high blood plasma glucose (\$108.7 million) for 45 to 64 year olds
- overweight (including obesity) (\$315.4 million), tobacco use (\$219.8 million) and, high blood plasma glucose (\$187.5 million) for those 65 years and older



Note: the cost of individual risk factors cannot be added together to determine the total expenditure attributable to all risk factors for each age group as this does not account for the interaction between them.

Figure 5. WA healthcare spending attributable to different risk factors by age group, 2018–19.

Summary

This bulletin provides the healthcare expenditure attributable to 20 modifiable risk factors in WA for the year 2018-19. An estimated \$2.3 billion of healthcare spending was attributable to the combination of 20 modifiable risk factors, with males having a slightly higher expenditure than females. The risk factors with the highest financial impacts were overweight and obesity (\$568.7 million), tobacco use (\$399.9 million), high blood plasma glucose (\$333.5 million), high blood pressure (\$249.9 million) and alcohol use (\$231.3 million). Illicit drug use was the leading risk factor associated with the highest expenditure for the younger WA population aged between 20 and 44 years (\$83.1 million) while overweight (and obesity) was the leading risk factor for the older population aged 45 years and above (\$520.5 million). Findings from the *Burden of Disease in WA 2018* report showed that the health burden (DALYs) attributable to illicit drug use and overweight (including obesity) has also increased between the years 2011 and 2018 (5).

The top 5 disease groups associated with modifiable risk factors that had the highest financial impacts were cardiovascular diseases (\$422.1 million), cancers and other neoplasms (\$389.7 million), injury (external cause) (\$232.4 million), endocrine disorders (\$231.2 million), and mental and substance use disorders (\$221.5 million).

The majority of costs attributable to risk factors were for hospital care (\$1,606.3 million), followed by primary healthcare (\$550.6 million) and referred medical services (\$165.2 million). This aligns with the pattern of healthcare spending by area of expenditure. Among the leading risk factors, public hospital admissions accounted for the greatest proportion of attributable spending, with the exception of overweight (including obesity) and high blood pressure for which private hospital services accounted for the greatest proportion of attributable spending.

The estimates from this bulletin provide evidence of the financial impacts of modifiable risk factors on the WA population and WA healthcare system. Working together across government, industry and the community, we can better support Western Australians to lead healthier lives.

Acknowledgments

We would like to thank the AIHW for provision of the WA burden of disease and healthcare expenditure data that was used to produce this bulletin. We are also grateful for the feedback provided by the Chronic Disease and Prevention Directorate. This bulletin was put together by Dr Ranila Bhojroo, Ann-Marie Chapman, Nastassia Gregoriadis and Wendy Sun of the WA Department of Health, Epidemiology Directorate.

Enquiries

For queries or further analysis regarding this bulletin, contact epi@health.wa.gov.au.

References

1. Epidemiology Directorate. *The Burden of Disease in Western Australia 2018*. Western Australia: Department of Health; 2022.
2. Australian Institute of Health and Welfare. *Australian Burden of Disease Study: methods and supplementary material 2015*. Canberra: AIHW; 2020.

3. Australian Institute of Health and Welfare. Australian Burden of Disease Study: Methods and supplementary material 2018. Canberra: AIHW; 2021.
4. Australian Institute of Health and Welfare. *Disease Expenditure Study: Overview of analysis and methodology 2018–19*. Canberra: AIHW; 2021.
5. Australian Institute of Health and Welfare. *Disease expenditure in Australia 2018-19*. Canberra: AIHW; 2021.

Appendix

Table 3. Healthcare spending attributable to individual risk factors by disease group (in millions of dollars), WA, 2018–19.

Risk Factors	Blood and metabolic	Cancer and other neoplasms	Cardiovascular diseases	Endocrine disorders	Gastrointestinal disorders	Hearing and vision disorders	Infant and congenital	Infectious diseases	Injury (external cause)	Kidney and urinary diseases	Mental and substance use	Musculoskeletal disorders	Neurological conditions	Reproductive and maternal	Respiratory diseases	Grand total
Overweight (including obesity)		58.3	118.5	82.3	35.2	16.8				78.7		150.0	11.1		17.8	568.7
Tobacco use		116.6	127.0	6.0	4.7	10.5		27.0				16.4	4.8		86.8	399.9
High blood plasma glucose		22.9	29.1	231.2		12.4				33.6			4.2			333.5
High blood pressure			188.5							59.5			1.9			249.9
Alcohol use		33.6	22.7		5.6			11.9	108.7		44.2		4.6			231.3
All dietary risks		37.4	138.7	38.0						12.1						226.2
Impaired kidney function			22.6							174.2		2.6	4.4			203.9
Illicit drug use		3.4			4.8			56.6	12.1		63.5					140.5
High sun exposure		134.9														134.9
Low bone mineral density									106.7							106.7
Child abuse and neglect									8.0		86.4					94.4
Physical inactivity		18.4	37.6	29.3									6.5			91.7
High cholesterol			87.0													87.0
Occupational exposures / hazards		10.4				3.4			10.6			41.1			9.1	74.6
Low birth weight / short gestation							53.5									53.5
Air pollution		2.8	24.2	9.7				10.3							6.1	53.0
Intimate partner violence									10.9		32.7			6.1		49.7
Unsafe sex		6.0			0.2			35.9								42.1
Iron deficiency	25.8															25.8
Bullying victimisation											6.3					6.3

Notes: 1. oral disorders and skin disorders have been excluded. 2. risk factors were ordered by the highest total cost to the lowest cost. 3. the cost of individual risk factors cannot be added together to determine the total expenditure attributable to risk factors as this does not account for the interaction between the risk factors.

Table 4. Healthcare spending attributable to individual risk factors by age group (in millions), WA, 2018–19.

Risk Factors	< 1	1- 4	5 -9	10 -14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Air pollution	0.95	0.86	0.32	0.23	0.23	0.25	0.45	0.61	1.04	1.65	2.17	3.81	5.83	5.33	6.40	7.46	6.50	4.57	4.39
Alcohol use		<0.01	0.01	0.13	7.27	12.94	14.45	13.51	16.26	16.51	19.29	20.44	20.98	20.80	17.43	17.66	13.16	9.59	10.86
All dietary risks							1.10	2.08	3.75	5.52	11.45	16.51	22.78	28.77	33.86	33.99	28.59	19.82	17.97
Bullying victimisation				0.78	2.62	2.89													
Child abuse and neglect			0.19	2.28	8.86	9.31	9.18	10.03	9.44	8.47	8.77	7.75	6.53	5.58	3.39	2.30	1.21	0.57	0.52
High blood plasma glucose	0.05	0.62	1.89	3.84	2.93	2.60	3.63	5.43	7.56	8.73	16.71	21.03	32.46	38.52	46.29	48.52	41.97	27.48	23.26
High blood pressure							1.22	1.33	2.14	3.55	7.79	13.71	21.52	27.13	36.52	39.00	39.96	27.21	28.83
High cholesterol							0.37	0.67	1.64	2.70	5.65	8.31	11.52	13.4	11.20	9.63	8.42	6.91	6.53
High sun exposure	0.01	0.01	0.01	0.03	0.37	0.53	0.74	1.10	2.83	3.41	6.52	8.01	11.91	14.67	19.24	20.91	18.13	13.56	12.93
Illicit drug use					5.72	13.37	16.73	18.37	18.11	16.52	14.89	11.20	8.52	7.71	3.62	2.15	1.67	0.92	0.96
Impaired kidney function	0.05	0.26	0.47	0.84	0.68	0.77	2.24	3.18	4.56	7.06	11.44	16.06	17.91	19.55	22.52	25.21	25.76	21.44	23.86
Intimate partner violence					2.06	2.68	5.68	7.08	6.33	5.80	4.71	4.33	3.61	2.76	1.75	1.01	0.75	0.58	0.53
Iron deficiency	0.10	0.36	0.14	0.31	0.97	1.06	0.96	1.31	1.78	1.81	1.96	1.58	1.05	1.17	1.68	1.85	2.32	2.38	3.03
Low birth weight and short gestation	53.04	0.38	0.04				0.01												
Low bone mineral density										2.34	3.73	5.06	6.41	7.78	11.77	14.22	14.77	13.29	27.32
Occupational exposures and hazards					1.40	2.17	3.34	4.11	5.58	6.75	8.68	10.7	10.77	10.49	2.90	3.24	2.30	1.48	0.70
Overweight (including obesity)			1.07	0.24	0.97	2.02	5.36	8.58	12.58	17.42	29.79	43.60	57.62	74.04	86.95	85.64	70.59	37.85	34.39
Physical inactivity						0.12	0.28	0.70	1.16	1.74	3.55	5.02	7.38	9.98	12.09	13.64	14.63	10.62	10.83
Tobacco use	0.17	0.24	0.07	0.04	0.02	0.02	0.05	8.40	11.07	12.61	25.44	30.14	42.42	49.36	57.41	56.40	45.28	31.26	29.49
Unsafe sex	0.06	<0.01	0.02	0.07	0.95	1.69	3.01	4.14	5.12	4.98	5.21	4.90	3.98	3.26	2.06	1.24	0.91	0.31	0.13

Notes: the cost of individual risk factors cannot be added together to determine the total expenditure attributable to risk factors as this does not account for the interaction between the risk factors.