

Supplementary material for Original articles

Hughes MC, Afrin S, Vaezi M. Use of Population Indices in Cancer Research: A Scoping Review

Supplementary Table: Summary of studies

First Author (year)	Country	Index(es)	Study design	Findings	Cancer site	Study aim	Vulnerable and Key populations	Study quality	Impact factor	Number of citations
Abbas (2020)	Global	DALY	Case-control	In estimating the health impact of HPV vaccination on 9-year-old girls, the combined updates to demography, disability weights, cervical cancer burden estimates resulted in a 26% increase in the estimated number of cases averted, a 51% increase in deaths averted, and a 72% increase in DALYs averted per 1000 vaccinated girls for both the bivalent or quadrivalent and nonavalent vaccines, compared with previous estimates. With the updated model, the bivalent or quadrivalent HPV vaccine was	Cervical	We updated PRIME with new data and methods for demography, disability weights, and cervical cancer burden and generated revised estimates of the health impact of HPV vaccination at the global, regional, and national levels for 177 countries.	N/A	Intermediate	26-76	23

				<p>estimated to avert 15 cases, 12 deaths, and 243 DALYs per 1000 vaccinated girls, and the nonavalent HPV vaccine was estimated to avert 19 cases, 14 deaths, and 306 DALYs per 1000 vaccinated girls. The health benefits of vaccination of 12-year-old girls were estimated to be similar but slightly decreased in comparison with vaccination of 9-year-old girls.</p>						
Abdelaziz (2019)	Tunisia, Algeria, Morocco	DALY	Survey	<p>Cancers are currently, and in the next two decades, an important component of the Global Burden of Disease in Central Maghreb countries. The typology is dominated by lung, breast, and colorectal cancers. The establishment of a Maghreb cancer registry would be a fundamental component of the</p>	General	<p>To describe the epidemiology of cancers in terms of the global burden of disease, incidence, prevalence, and typology in the three Central Maghreb countries from 1990 to 2017, as well as their trends from 2017 to 2040.</p>	N/A	Intermediate	0.34	5

				Maghreb cancer plan.						
Aggarwal (2021)	United States	DALY	Cohort	Health care professionals can utilize differences and trends noted in this study to guide the allocation of resources to reduce incidence and morbidity from skin cancer.	Skin	To evaluate the burden of skin cancer in the US from 1990 to 2019.	N/A	Intermediate	11.53	5
Aguilar (2015)	Honduras	DALY	Cohort	When comparing the costs and benefits of HPV vaccine introduction in Honduras, it is clear that this intervention would be highly cost-effective and that the intervention would greatly reduce cervical cancer disease. For these reasons, it is in the country's best interest to explore financing opportunities that could support the vaccine's introduction.	Cervical	Developing evidence on the costs and health benefits of the HPV vaccine to support decision-making at country level.	N/A	Intermediate	3.64	22
Akinyemiju (2017)	Global	DALY	Cohort	Liver cancer is among the leading causes of cancer deaths in many countries. Causes of liver cancer	Liver	To report results of the Global Burden of Disease (GBD) 2015 study on primary liver cancer incidence,	Low-income	Low	31.78	986

				differ widely among populations. Our results show that most cases of liver cancer can be prevented through vaccination, antiviral treatment, safe blood transfusion and injection practices, as well as interventions to reduce excessive alcohol use. In line with the Sustainable Development Goals, the identification and elimination of risk factors for liver cancer will be required to achieve a sustained reduction in liver cancer burden.		mortality, and disability-adjusted life-years (dalys) for 195 countries or territories from 1990 to 2015, and present global, regional, and national estimates on the burden of liver cancer attributable to HBV, HCV, alcohol, and an “other” group that encompasses residual causes.				
Alonso (2009)	Cuba	YPLL	General	Characterize the burden of disease due to morbidity and mortality in Cuba between 1990 and 2002, depending on the type and location of cancer.	Case report	The types and locations of cancer with the highest DALYs were: pulmon, breast, prostate, colon, and rectum, cervix, and endometrium. The burden of cancer disease increased in Cuba between 1990 and 2002,	N/A	High	0.54	4

						especially due to an increase in the mortality burden.				
Aponte-González (2013)	Colombia	DALY	Cohort	HPV vaccination could be a convenient alternative for the prevention of CC in Colombia. However, the price of the vaccine should be lower for this vaccination strategy to be cost-effective. It is also important to take into consideration the willingness to pay, budgetary impact, and program implications, in order to determine the relevance of a vaccination program in this country, as well as which vaccine should be selected for use in the program.	Cervical	To compare costs and effectiveness of three strategies used against cervical cancer (CC) and genital warts: (i) Screening for CC; (ii) Bivalent Human Papillomavirus (HPV) 16/18 vaccine added to screening; (iii) Quadrivalent HPV 6/11/16/18 vaccine added to screening.	?	Intermediate	3.24	33
Artyukhov (2016)	Russia	DALY	Cohort	An assessment of economic tobacco use-related burden is important for determining the volume of necessary funding for development of smoking	Lung	Assesses mortality and economic burden due to the regular tobacco usage among the population of the Krasnoyarsk region of the	N/A	Intermediate	3.16	3

				prevention programs, proper estimation of tobacco companies' taxation, and other measures for controlling tobacco use. Smoking cessation is a priority for prevention of the tobacco-related diseases and reduction of their burden on local economy.		Russian Federation.				
Azadnabajabad (2021)	Global	DALY		TC QOC is better among those countries of higher socioeconomic status, possibly due to better healthcare access and early detection in these regions. Overall, the quality of TC care was higher in women and younger adults. Countries could adopt the introduced index of QOC to investigate the quality of provided care for different diseases and conditions.	Thyroid	To assess the quality of TC care and its disparities.	N/A	High	3.36	8

Bahatola (2018)	Global	DALY	Cohort	By region, the largest burden of disease related to air pollution is found in Western Pacific and South-East Asia, reflecting the heavy industry and air pollution hotspots within the developing nations of these regions. Moreover, the rates of Disability Adjusted Life Years increased because of increase in pollution, especially in South-East Asia region, African region, and Eastern Mediterranean region where populations are both growing and ageing.	Trachea, Bronchus, Lung	Evaluates the comparison of estimates and describes the global burden of diseases related to air pollution in the regions of WHO from 1990 to 2015	Low-income countries	High	0.67	53
Bao (2021)	Global	DALY	Cohort	The global incidence of thyroid cancer has continued to increase in the past three decades. The high body-mass index as an important risk factor for thyroid cancer deserves greater attention,	Thyroid	To investigate the burden of thyroid cancer and its attributable risk factors in 204 countries and territories during 30 years.	Low-SDI	Intermediate	0.82	1

				especially in high SDI regions.						
Batumalai (2018)	Australia	YPLL	General	To estimate survival shortfall, 'years of potential life lost (YPLL) and 'disability-adjusted life years lost (DALY) to demonstrate the impact of radiotherapy underutilization in Australia.	Case study	This study illustrates the value of considering different mortality statistics, which include measures of the burden of cancer deaths on both the population and patients. The results suggest that a more subtle and comprehensive calculation of mortality statistics would be useful in relation to resource and research allocation. It also demonstrates the tumor sites that should be further targeted as a public health priority so that steps can be taken to prevent premature mortality due to radiotherapy underutilization.	N/A	Intermediate	6.28	10
Berjia (2014)	Denmark	DALY	Case study	The method used to quantify the difference in	Colorectal,	To compare the burden of disease estimate attributed	N/A	Intermediate	4.60	30

				disease burden of different cooking practices can help to inform the consumer to make a choice on whether the benefit of a preferred cooking style is worth the associated health loss.	prostate, breast,	to red meat consumption processed using different cooking practices.				
Bhakta (2013)	Brazil, Malawi	DALY	Case-control	The key findings were as follows: the 3:1 cost/DALY prevented to GDP/capita ratio for ALL in Brazil was US\$771 225; expenditures below this threshold were cost-effective. Costs below US\$257 075 (1:1 ratio) were considered very cost-effective. Analogous thresholds for BL in Malawi were US\$42 729 and US\$14 243. Actual costs were far less. In Brazil, US\$16 700 was spent to treat each patient, while in Malawi, total drug costs were less than US\$50 per child. In	Acute lymphocytic leukemia , Burkitt lymphoma	The objective of the present work was to determine cost-effectiveness thresholds for common pediatric cancers using acute lymphoblastic leukemia (ALL) in Brazil and Burkitt lymphoma (BL) in Malawi as examples.	Low-income countries	Intermediate	3.26	75

				summary, the treatment of certain pediatric cancers in LMIC is very cost-effective.						
Bilano (2015)	Philippines	DALY	Cohort	Considerable health gains could be achieved if smoking exposure were reduced in the Philippines. Strong enforcement of measures like increasing taxation to the WHO-endorsed rate, expanding smoke-free environments, and requiring large graphic warnings within a comprehensive tobacco control programme is recommended.	Lung	To provide the first internally consistent and latest Philippine estimates of the following: disability-adjusted life-years (dalys) lost due to lung cancer; population attributable fractions (pafs) of smoking; and smoking-attributable lung cancer dalys.	N/A	High	6.73	7
Bosetti (2020)	Italy	DALY	Cohort	Age-standardized mortality rates in Italy showed favorable patterns over the last few decades. However, the absolute number of cancer cases and, to a lower extent, of cancer deaths increased likely due to the progressive ageing of the population,	General	Monitor the burden of cancer in Italy and its trends over the last three decades, providing estimates of cancer incidence, mortality, years of life lost, years lived with disability, and disability-adjusted life-years (dalys), for cancer overall	N/A	Intermediate	4.38	3

				this calling for a continuous effort in cancer prevention, early diagnosis, and treatment.		and 30 cancer sites using data from the Global Burden of Disease study 2017.				
Boswell-Purdy (2007)	Canada	HALYs	General	Summary measures of population health that incorporate morbidity provide a new perspective for health policy and priority setting	Case Study	These results are a significant advance in measuring the population health impact of cancer in Canada because they incorporate morbidity as well as mortality.	N/A	High	2.6	16
Burger (2018)	Uganda	DALY	Cohort	One-dose HPV vaccination resulted in cost-savings compared to no vaccination and could be cost-effective compared to two-dose vaccination if protection is longstanding and higher coverage can be achieved.	Cervical	To evaluate the long-term health and economic impacts of routine one-dose HPV vaccination compared to (1) no vaccination and (2) two-dose HPV vaccination in a low-income country.	Low-income Gavi-eligible country	Intermediate	3.64	33
Carreras (2020)	Global	DALY	Case-control	The proportion of DALYs from breast cancer lost respectively from smoking and SHS exposure was 2.6% and 1.0%, although geographically distributed with significant heterogeneity. These results	Breast	To estimate the number of deaths and disability-adjusted life years (dalys) from breast cancer attributable to these two risk factors in the European Union (EU-28) in 2017.	N/A	Intermediate	7.40	7

				represent the first estimates of breast cancer burden in women attributable to smoking and SHS exposure for the EU-28. It is important to increase awareness among women, health professionals, and wider society of the association between smoking, SHS exposure, and breast cancer, a relationship that is not widely recognized or discussed.						
Carter (2012)	United States	DALY	Cohort	These discrepancies indicate that an improved method of health care research funding allocation should be investigated to better match funding levels to societal burden	General	Compare research funding from the National Cancer Institute (NCI) to various burden metrics for the most common types of cancer to identify mismatches between spending and societal burden.	N/A	Intermediate	3.18	143
Chen (2020)	Global	DALY	Cohort	PCa remains a major public health burden globally. The unfavorable trend in PCa suggesting that	Pancreas	The Global Burden of Disease (GBD) study evaluated the pca burden in 195 countries and	Low SDI, low-middle SDI	Low	4.00	6

				<p>further study for prevention should be conducted to forestall the increase in pancreatic cancer.</p>		<p>territories across the world, including estimates of incidence, death, and disability-adjusted life years (dalys) between 1990 and 2017. In the present study, using the data from the GBD Study 2017, we describe the pca epidemiology from 1990 to 2017 at the global, national, and regional levels and analyze major risks on the change in pca burden.</p>				
Chie (2001)	Taiwan	DALY	Case-control	<p>The disability portion (YLD) of the DALYs for breast cancer patients in Taiwan was higher than in other regions of the world. Moreover, patients younger than 45 years contributed a higher proportion of DALYs than in developed countries. The DALY value per 1000 population</p>	Breast	<p>Estimate the disability-adjusted life years (dalys) for breast cancer patients during 1994 and compare the results with similar data from other areas of the world.</p>	N/A	Low	3.28	6

				younger than 45 years of age was also higher than in developing countries.						
Cho (2013)	Korea	DALY	Cohort	The SMCB indicated that the burdens of stomach cancer in males and thyroid and breast cancers in females were large. The single measure showed an advantage, reflected as the equivalent dimensions of incidence and mortality, whereas DALY and economic costs showed tendencies to reflect premature death.	General	The purpose of this study was to develop a single measure of cancer burden (SMCB), which can prioritize cancer sites by considering incidence and mortality.	N/A	High	2.51	17
Chung (2015)	Korea	DALY	Survey	The economic burden of liver disease is immense because of the associated high mortality and morbidity, especially among the economically active population. This indicates the need to prioritize the development of appropriate health interventions	Liver	This study introduces methods for estimating the cost of liver disease and presents useful and reliable sources of data. The available evidence on the costs associated with liver disease is also discussed.	N/A	High	6.07	22

Cong (2016)	China	DALY	Cohort	Compared with those in 1990, the incidence of thyroid cancer increased, but the mortality decreased in 2013. Although significant decrease of DALY due to thyroid cancer was seen in 2013, the YLD burden was still increasing.	Thyroid	To analyze the disease burden of thyroid cancer in the Chinese population in 1990 and 2013.	?	Low	0.00	9
Costilla (2013)	New Zealand	DALY	Cohort	Due to Māori both having higher rates of cancers with a worse survival (e.g. lung cancer), and tending to have worse survival for each cancer site, ethnic disparities in the age-standardised DALY burden were greater than those for incidence (rate ratios of 1.52 and 1.07 respectively, sexes pooled). Key words: cancer, New Zealand, burden of disease, DALY, YLL, YLD, incidence, Markov models	General	Estimate the prospective burden of disease arising from 27 cancer sites diagnosed in 2006 by sex and ethnicity, and determine how its distribution differs from that for incidence rates alone	Ethnic-specific (Māori and non-Māori)	Intermediate	2.94	25
Cowan (2018)	Global	DALY	Cohort	Incidence of MM is highly variable among countries	Multiple Myeloma	To describe the burden of MM and the	Low-middle SDI countries	High	31.78	309

				<p>but has increased uniformly since 1990, with the largest increase in middle and low-middle SDI countries. Access to effective care is very limited in many countries of low socioeconomic development, particularly in sub-Saharan Africa. Global health policy priorities for MM are to improve diagnostic and treatment capacity in low and middle income countries and to ensure affordability of effective medications for every patient.</p>		<p>availability of effective therapies for 21 world regions and 195 countries and territories from 1990 to 2016.</p>				
Crettaz (2002)	Country not specified	DALY	Case study	<p>Most of the variation among chemicals for cancer effects is found to be due to differences in the slope factors (β_{ED10}) ranging from 10–4 up to 104 (risk of cancer/mg/kg-day).</p>	General	<p>Explore the use of quantitative methods drawn from conventional single-chemical regulatory risk assessments to create a procedure for the estimation of the cancer effect measure in the impact phase of LCA</p>	N/A	High	4.00	115

Davidović (2021)	Netherlands	DALY	Cohort	Using DALYs averted instead of QALYs gained to assess the effects on quality of life from breast cancer screening in the Dutch population yields differences in ICERs, but almost the same strategies were on the efficiency frontiers. Whether the choice in outcome measure leads to a difference in optimal policy depends on the cost-effectiveness threshold.	Breast	To quantify the impact of mammography-based screening on the quality of life, disability-adjusted life years (dalys) averted or quality-adjusted life years (qalys) gained can be used. We aimed to assess whether using dalys averted or qalys gained will lead to different cost-effective screening strategies.	N/A	Intermediate	6.93	3
De Oliveira Mota (2019)	France	DALY		The uncertainty was mainly due to the dose-response, as revealed by a sensitivity analysis. A scenario analysis, performed on red meat intake, highlighted that consumption of less than 65 g per day could limit the risk of CRC and CVD in the most affected sub-populations.	Colorectal	To assess quantitatively the burden of disease of CRC and CVD due to the consumption of red meat in France.	N/A	Intermediate	4.60	18
Degenhardt (2016)	Global	DALY	Cohort	In 2013, an estimated 10·08	Liver	Previous estimates of the	Low-income countries	Low	25.07	227

				million DALYs were attributable to previous exposure to HIV, HBV, and HCV via IDU, a four-times increase since 1990. In total in 2013, IDU was estimated to cause 4.0% (2.82 million DALYs, 95% UI 2.4 million to 3.8 million) of DALYs due to HIV, 1.1% (216 000, 101 000-338 000) of DALYs due to HBV, and 39.1% (7.05 million, 5.88 million to 8.15 million) of DALYs due to HCV.		burden of HIV, hepatitis B virus (HBV), and hepatitis C virus (HCV) among people who inject drugs have not included estimates of the burden attributable to the consequences of past injecting. We aimed to provide these estimates as part of the Global Burden of Disease (GBD) Study 2013.				
Deng (2020)	Global	DALY	Cohort	Overall, all the ASRs showed downward trends globally. The majority of larynx cancer burden was observed in men, especially among male aged 50-69 years. South and East Asia carried the heaviest burden of larynx cancer worldwide.	Larynx	To investigate the health burden of larynx cancer at global, regional, and national levels.	Low and low-middle SDI	Intermediate	5.68	19
Deng (2020)	Global	DALY	Cross-sectional study	Data from this study suggest considerable heterogeneity in	Thyroid	To examine the thyroid cancer burden and variation trends at	Low SDI, low-middle SDI	Intermediate	8.48	48

				the epidemiologic patterns of thyroid cancer across sex, age, SDI, region, and country, providing information for governments that may help improve national and local cancer control policies.		the global, regional, and national levels using data on sex, age, and SDI.				
Deng (2020)	Global	DALY	Cohort	Tobacco was always the top risk factor of death and DALYs in both countries. The policy should be tilted towards air pollution and a diet low in fruits in China, as well as occupational carcinogens and high fasting plasma glucose in USA. Healthcare reform in both countries should focus on planning how its health system could effectively prevent and manage TBL cancer at low cost.	Trachea, Bronchus, Lung	Examined the tracheal, bronchus, and lung (TBL) cancer burdens worldwide according to sex, age, and social development index (SDI) at the global, regional, and national levels.	Low SDI, low-middle SDI	Intermediate	12.64	20
Deng (2021)	Global	DALY	Cohort	Large variations existed in the dietary risk-related colorectal cancer burdens among	Colorectal	To explore the geographical and temporal trends in various dietary	Low SDI, low-middle SDI	High	6.58	0

				sexes, regions, and countries. More targeted interventions to address modifiable dietary risk factors would save 32% of deaths and 34% of DALYs for colorectal cancer.		factor-related colorectal cancers.				
Deng (2021)	United States, China	DALY	Cohort	According to APC analysis, the age effect played a key role in morbidity and mortality of TBL cancer, and the risk increased with age. Period effect kept increasing over time, while cohort effect decreased with the time of birth. Tobacco was always the top risk factor of death and DALYs in both countries. The policy should be tilted towards air pollution and a diet low in fruits in China, as well as occupational carcinogens and high fasting plasma glucose in USA. Healthcare reform in both countries should focus on	Trachea, Bronchus, Lung	To grasp the characteristics of the TBL cancer burden in China and the United States (USA).	N/A	High	4.06	1

				planning how its health system could effectively prevent and manage TBL cancer at a low cost.						
Dhillon (2018)	India	DALY	Case-control	8.3% (95% uncertainty interval [UI] 7.9-8.6) of the total deaths and 5.0% (4.6-5.5) of the total DALYs in India in 2016 were due to cancer, which was double the contribution of cancer in 1990. However, the age-standardised incidence rate of cancer did not change substantially during this period. The age-standardised cancer DALY rate had a 2.6 times variation across the states of India in 2016. The ten cancers responsible for the highest proportion of cancer DALYs in India in 2016 were stomach (9.0% of the total cancer DALYs), breast (8.2%), lung	General	We present a comprehensive picture of the patterns and time trends of the burden of total cancer and specific cancer types in each state of India estimated as part of the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2016 because such a systematic compilation is not readily available.	Rural	Low	41.32	112

				(7·5%), lip and oral cavity (7·2%), pharynx other than nasopharynx (6·8%), colon and rectum (5·8%), leukaemia (5·2%), cervical (5·2%), oesophageal (4·3%), and brain and nervous system (3·5%) cancer.						
Di Pardo (2016)	Global	DALY	Cohort	A substantial number of years of life were lost or affected by esophageal cancer worldwide in 2008, with the burden resting disproportionately on less-developed countries. Geographically, the greatest burden is in Eastern Asia. The vast majority of DALYs were due to YLL, rather than YLD, indicating the need to focus resources on disease prevention and early detection.	Esophageal	To examine its global burden through estimation of the disability-adjusted life years (dalys) attributable to it.	Less-developed countries	High	2.64	77
Ding (2019)	China	DALY	Cohort	The disease burden of liver cancer continued to increase in China, with viral factors as	Liver	To evaluate the trends in disease burden and the epidemiological features of liver	N/A	Intermediate	2.69	18

				one of the leading causes. Strategies such as promoting hepatitis B vaccinations, blocking the transmission of hepatitis C and reducing alcohol consumption should be prioritized.		cancer in China while identifying potential strategies to lower the disease burden.				
Doan (2019)	Australia	DALY	Randomized controlled trial	Trastuzumab for HER2-positive early breast cancer had a high ICER. It is unclear why the Pharmaceutical Benefits Scheme listing does not use restrictions to improve the cost-effectiveness of the drug.	Breast	Reassess the cost-effectiveness of listing the drug on the subsidized Australian Pharmaceutical Benefits Scheme; provide additional evidence on the cost-effectiveness of ATC, compared with SAC, for the treatment of HER2-positive early breast cancer.	N/A	High	1.82	2
Domínguez (2014)	Cuba	DALY	Cohort	An unfavorable trend in disability-adjusted life years was seen for breast and cervical cancer between 1990 and 2006 in Cuban women of childbearing age.	Breast, Cervical, Endometrial, Ovarian	Determine disability-adjusted life years for breast and reproductive system cancers in Cuban women aged 15–44 years during the period 1990–2006.	N/A	Intermediate	0.41	5

Driscoll (2005)	Global	DALY	Cross-sectional analytic study	The analysis has shown that occupational carcinogens are an important cause of death and disability worldwide. Work-related cancers are largely preventable, and the estimated burden of occupational carcinogens can be diminished by improving working conditions, as many examples from different countries have shown.	General	To estimate the attributable fractions of selected occupational carcinogens and the resulting number of deaths and dalys	N/A	Intermediate	2.21	385
Driscoll (2020)	Country not specified	DALY		Work-related carcinogens are responsible for considerable disease burden worldwide. The results provide guidance for prevention and control initiatives.	General	This study provides a detailed analysis of the global and regional burden of cancer due to occupational carcinogens from the Global Burden of Disease 2016 study.	Low-income and middle-income (LMI) countries	High	3.97	22
Ebrahimi (2019)	Global	DALY	Case-control	Although the number of bladder cancer incident cases is growing globally, the age standardized incidence and number of deaths	Bladder	Estimate the burden of bladder cancer by country, age group, gender, and sociodemographic status between 1990 and 2016.	Low-SDI	High	7.45	52

				are decreasing, as mirrored by a decreasing smoking contribution.						
Ebrahimi (2021)	Global	DALY	Cohort	The numbers of incident cases and deaths from tracheal, bronchus, and lung cancer and larynx cancer increased globally during the past decade. Even more concerning, age-standardised incidence and death rates due to tracheal, bronchus, lung cancer and larynx cancer increased in some populations—namely, in the lower SDI quintiles and among females. Preventive measures such as smoking control interventions, air quality management programmes focused on major air pollution sources, and widespread access to clean energy should be	Trachea, bronchus, lung, larynx	To provide global, regional, and national estimates of the burden of tracheal, bronchus, lung cancer, and larynx cancer and their attributable risks from 1990 to 2019.	Low-SDI	Low	30.70	4

				prioritised in these settings.						
Ekwunife (2017)	Nigeria	DALY	Cohort	National HPV vaccination combined with opportunist cervical cancer screening is cost-effective in Nigeria. However, adoption of this strategy should depend on its relative efficiency when compared to other competing new vaccines and health interventions.	Cervical	To evaluate the cost-effectiveness of HPV vaccination in Nigeria using pragmatic parameter estimates for cost and Programme coverage, i.e., realistically achievable in the studied context.	Rural population	Intermediate	1.99	13
Esquiaqui-Felipe (2012)	Colombia	DALY	Survey	In conclusion, the burden of cancer disease in Santander during the 2005 is mainly due to the years of life lost due to death premature (94%). On the other hand, it could be seen that in the population 0-4 years leukemias, lymphomas and multiple myelomas produce a high burden of disease with 131.8 DALYs at the expense of AVPM (81%). This high mortality is	General	To determine the burden of cancer disease in Santander through disability-adjusted life years (dalys).	N/A	High	0.36	2

				caused by multiple factors such as: late access to primary and tertiary medical care, misdiagnosis by health professionals and inadequate infrastructure data management, which prevent giving these children and adolescents a timely treatment.						
Etchie (2018)	India	DALY	Cohort	A substantial amount of years of healthy-life is lost every year from exposure to ambient PM2.5-bound PAHs in Nagpur district. The health loss is greatest for developmental (mostly cardiovascular) impairments (55.1%), followed in a decreasing order by cancer (26.5%) or lung cancer (23.1%), immunological impairments (18.0%), and reproductive abnormalities	General	Estimate cancer and non-cancer burden of disease in disability-adjusted life years (dalys), attributable to ambient PM2.5-bound pahs exposure in Nagpur district, India, using a risk-based approach.	Rural areas	High	7.09	27

				(0.4%). This indicates that PAHs-related lung cancer burden of disease could grossly underrepresent the actual burden of disease resulting from airborne PAHs exposure, if used alone in policy decision-making.						
Etemadi (2020)	Global	DALY	Cohort	Despite the increase in absolute numbers, the worldwide age-standardised rates of stomach cancer (incidence, deaths, and DALYs) have declined since 1990. The drop in the disease burden was associated with improved Socio-demographic Index. Globally, 38.2% (21.1-57.8) of the age-standardised DALYs were attributable to high-sodium diet in both sexes combined, and 24.5% (20.0-28.9) of the age-standardised	Stomach	Report on the incidence, mortality, and disability-adjusted life-years (dalys) due to stomach cancer in 195 countries and territories from 21 regions between 1990 and 2017.	N/A	High	4.02	165

				DALYs were attributable to smoking in males.						
Fattahi (2021)	Iran	DALY	Case-control	The GC age-standardized rates revealed a downward trend from 1990 to 2017. The current study provides comprehensive knowledge about the GC burden in Iran. Therefore, it can help the appropriate allocation of resources for GC to expand preventive programs by reducing exposure to risk factors and Helicobacter pylori infection and by recommending increased consumption of fruits and vegetables.	Gastric	To study and illustrate the burden of GC and compare rates by sex and age groups at the national level in Iran from 1990 to 2017.	N/A	High	2.60	0
Feng (2016)	China	DALY	Case-control	The disease burden of colorectal cancer in China remained at high levels in 2013. Compared with the data in 1990, the total disease burden on colorectal cancer showed an increase while the DALY	Colorectal	To analyze the disease burden of colorectal cancer in the Chinese people in 1990 and 2013.	?	High	0.00	10

				rate and YLL rate showed a decline in 2013.						
Fernández (2009)	Spain	DALY	Cohort	Lung, colorectal and breast cancers are responsible for the highest number of DALYs in Spain. Even if the burden of disease due to cancer is predominantly caused by mortality, some cancers have a significant weight of disability. Information on 2000 burden of disease due to cancer can be useful to assess how it has evolved over time and the impact of medical advances on it in terms of mortality and disability	General	The objective of this study is to ascertain the burden of disease due to cancer in Spain via the calculation of disability-adjusted life years (dalys).	N/A	High	4.00	29
Fitzmaurice (2015)	Global	DALY	Case study	Cancer poses a major threat to public health worldwide, and incidence rates have increased in most countries since 1990. The trend is a particular threat to developing nations with health systems	General	To estimate mortality, incidence, years lived with disability (ylds), years of life lost (ylls), and disability-adjusted life-years (dalys) for 28 cancers in 188 countries by	N/A	Intermediate	31.78	2190

				that are ill-equipped to deal with complex and expensive cancer treatments. The annual update on the Global Burden of Cancer will provide all stakeholders with timely estimates to guide policy efforts in cancer prevention, screening, treatment, and palliation.		sex from 1990 to 2013.				
Fitzmaurice (2017)	Global	DALY	Cohort	As part of the epidemiological transition, cancer incidence is expected to increase in the future, further straining limited health care resources. Appropriate allocation of resources for cancer prevention, early diagnosis, and curative and palliative care requires detailed knowledge of the local burden of cancer. The GBD 2015 study results demonstrate that	General	To estimate mortality, incidence, years lived with disability (ylds), years of life lost (ylls), and disability-adjusted life-years (dalys) for 32 cancers in 195 countries and territories from 1990 to 2015.	N/A	Intermediate	31.78	3245

				progress is possible in the war against cancer.						
Fitzmaurice (2018)	Global	DALY	Case study	Large disparities exist between countries in cancer incidence, deaths, and associated disability. Scaling up cancer prevention and ensuring universal access to cancer care are required for health equity and to fulfill the global commitments for noncommunicable disease and cancer control.	General	To describe cancer burden for 29 cancer groups in 195 countries from 1990 through 2017 to provide data needed for cancer control planning.	Low SDI	Intermediate	31.78	1050
Fitzmaurice (2018)	Global	DALY	Case study	Cancer is responsible for a substantial disease burden in the EMR, which is increasing. There is an urgent need to expand cancer prevention, screening, and awareness programs in EMR countries as well as to improve diagnosis, treatment, and palliative care services.	General	To estimate incidence, mortality, and disability-adjusted life years (dalys) caused by cancer in the Eastern Mediterranean Region (EMR) between 2005 and 2015.	Low-income countries (lics) (Afghanistan, Djibouti, Somalia, and Yemen)	Intermediate	3.38	27

Fitzmaurice (2019)	Global	DALY	Case study	The national epidemiological profiles of cancer burden in the GBD study show large heterogeneities, which are a reflection of different exposures to risk factors, economic settings, lifestyles, and access to care and screening. The GBD study can be used by policy makers and other stakeholders to develop and improve national and local cancer control in order to achieve the global targets and improve equity in cancer care.	General	To describe cancer burden for 29 cancer groups in 195 countries from 1990 through 2017 to provide data needed for cancer control planning.	Low-income countries	Low	31.78	906
Force (2019)	Global	DALY	Cohort	Globally, in 2017, there were 11.5 million (95% uncertainty interval 10.6-12.3) DALYs due to childhood cancer, 97.3% (97.3-97.3) of which were attributable to YLLs and 2.7% (2.7-2.7) of which were attributable to YLDs. Childhood	General	To report the global burden of childhood cancer in 2017 using DALY estimates from GBD 2017, an approach that adds a new perspective to the assessment of childhood cancer burden than has been presented in previous analyses.	Low-SDI	Intermediate	41.32	110

				<p>cancer was the sixth leading cause of total cancer burden globally and the ninth leading cause of childhood disease burden globally. 82.2% (82.1-82.2) of global childhood cancer DALYs occurred in low, low-middle, or middle Socio-demographic Index locations, whereas 50.3% (50.3-50.3) of adult cancer DALYs occurred in these same locations. Cancers that are uncategorised in the current GBD framework comprised 26.5% (26.5-26.5) of global childhood cancer DALYs.</p>						
Gan (2007)	China	DALY	Cohort	<p>Even without considering the passive smoking risks for other diseases and among children that have been documented in other countries, passive smoking poses serious</p>	Lung	<p>Estimate the disease burden from two major diseases (lung cancer and ischemic heart disease, IHD) in adults caused by passive smoking in China</p>	N/A	High	6.73	100

				health hazards for non-smokers, especially for adult female non-smokers in China, adding more urgency to the need for measures to be taken immediately to protect the health of non-smokers and curb the nation's tobacco epidemic.						
García-Fulgueiras (2011)	Spain	DALY	Survey	The findings emphasize the need to provide good surveillance systems not only concerning acute viral hepatitis, but also chronic and end-stage consequences to allow a reliable assessment of the prevention and public health control policies.	Liver	To assess the disability-adjusted life years (dalys) related to hepatitis C and B in Spain in 2006, taking into account related cirrhosis and liver cancer. A prevalence approach.	N/A	High	3.73	43
Giesey (2020)	Global	DALY	Cohort	Despite promising ongoing interventions in skin disease, better support is needed in both resource-rich and -poor areas of the Caribbean. DALYs can serve as a purposeful measure	Skin	To measure the burden of skin disease in the Caribbean from epidemiologic and socioeconomic standpoints.	?	High	11.53	0

				for directing resources and care to improve the burden of skin disease in the Caribbean.						
Goldie (2008)	Global	DALY	Randomized controlled trial	In the LAC region, if effective delivery mechanisms can achieve high coverage rates in young adolescent girls, vaccination against HPV-16 and 18 will provide similar health value for resources invested as other new vaccines such as rotavirus. If the cost per vaccinated girl is less than I\$25 HPV-16/18 vaccination would be very cost-effective in all 33 countries; for it to be affordable, costs may need to be lower.	Cervical	To generate early estimates of the potential health outcomes and cost-effectiveness for HPV-16/18 vaccination for all countries in LAC, for purposes of discussion, planning, and early decision making that are underway right now.	N/A	Intermediate	3.64	81
Gong (2016)	Korea	DALY	Cohort	The most important differences were that the DALYs were calculated by prevalence and that other components of the DALYs were measured by a population-based perspective. Thus,	General	This study aimed to measure the burden of cancer using the disability-adjusted life year (DALY) metric based on the newly adopted methodology from the Global	N/A	Low	2.15	17

				prevalence-based DALYs could provide more suitable data for decision making in the healthcare field.		Burden of Disease Study in 2010.				
González-León (2016)	Mexico	DALY	Cohort	The results obtained in this study allow for the identification of intervention priorities with regard to cancer at the institutional level and also for the focus at the delegation level to be placed on cancers ranking in the top positions for disease burden.	General	To estimate the disease burden of cancer in the affiliate population of the Mexican Social Security Institute (Instituto Mexicano del Seguro Social, IMSS) in 2010 by delegation.	N/A	Low	1.31	14
Groenewald (2007)	South Africa	DALY	Cohort	Cigarette smoking accounts for a large burden of preventable disease in South Africa. While the government has taken bold legislative action to discourage tobacco use since 1994, it still remains a major public health priority.	Breast, colon	To quantify the burden of disease attributable to physical inactivity in persons 15 years or older, by age group and sex, in South Africa for 2000.	N/A	High	1.33	114
Guerra (2020)	Brazil	DALY	Cohort	Such findings suggest an improvement in breast cancer survival in the	Breast	To evaluate inequalities in the burden of female breast cancer in Brazil, including	Low SDI, low-middle SDI	Intermediate	4.21	3

				<p>period, which may be related to broader access to diagnostic methods and treatment. This study also revealed the inequality in breast cancer outcomes among Brazilian states and may guide public policy priorities for disease control in the country.</p>		<p>an analysis of interregional and interstate patterns in incidence, mortality, and disability-adjusted life years (dalys) rates from 1990 to 2017, and mortality-to-incidence ratio (MIR), and their association with the Socio-demographic Index (SDI).</p>				
Guerrero-López (2019)	Mexico	DALY	Cohort	<p>The burden by LC has decreased but is differential between states. LC threatens financially both the health system and individuals, since an important fraction of the population is not protected.</p>	Lung	<p>To show lung cancer (LC) mortality and disability-adjusted life years (dalys) in Mexico</p>	Low-SDI	High	1.31	0
Gupta (2021)	India	DALY	Cohort	<p>Delays in diagnosis and treatment are likely to lead to more cervical cancer deaths as compared to COVID-19 mortality averted among the patients with cervical cancer. Health systems must</p>	Cervical	<p>We assessed the long-term health consequences because of the delay in diagnosis and treatment for cervical cancer due to COVID-19 in India.</p>	N/A	High	1.77	2

				reorganize in terms of priority setting for provision of care, starting with prioritizing the treatment of patients with early-stage cervical cancer, increasing use of teleconsultation, and strengthening the role of primary care physicians in provision of cancer care.						
Haidari (2017)	Mozambique	DALY	Cohort	Much of the population in Mozambique is unable to reach any existing immunization location, thereby reducing the potential impact of HPV vaccine. The geospatial information system analysis can assist in planning vaccine introduction strategies to maximize access and help the population reap the maximum benefits from an immunization program.	Cervical	To determine the potential economic impact of immunization against HPV 16 and 18 using the bivalent vaccine.	?	Intermediate	3.40	2

Harris (2021)	Global	DALY	Cohort	High and medium HDI countries experienced a disproportionate growth in lip and oral cavity cancer disease burden. These findings may have resulted from increased life expectancy among these countries. Global and public health policy initiatives should focus on understanding the mechanisms driving these disparities with the goal of reducing disease burden globally.	Lip and oral cavity	To characterize longitudinal trends in the GBD of lip and oral cavity cancer from 1990 to 2017 while focusing specifically on the distribution of disease burden among countries based on socioeconomic status.	N/A	High	1.90	0
Hashim (2018)	Global	DALY	Cohort	Our findings indicate that a comprehensive plan to improve public awareness, screening, diagnosis, and treatment is required to reduce the growing burden of breast cancer in the Arab world.	Breast	To examine breast cancer epidemiology in Arab countries from 1990 to 2016	Low sociodemographic index (SDI)	High	1.56	24
Havelaar (2000)	Netherlands	DALY	Case-control	The net benefit is approximately 1 DALY/million person-years. The application of	Renal cell cancer	To evaluate the applicability of disability-adjusted life-years (dalys) as a measure to	?	Intermediate	9.03	141

				DALYs in principle allows us to more explicitly compare the public health risks and benefits of different management options. In practice, the application of DALYs may be hampered by the substantial degree of uncertainty, as is typical for risk assessment.		compare positive and negative health effects of drinking water disinfection.				
He (2020)	Global	DALY	Case study	The prevalence and mortality of BCa were very high in 2017, especially in high-SDI countries. Smoking-cessation strategies should be strengthened to control the burden associated with BCa.	Bladder	To describe the prevalence and mortality of bladder cancer (bca) using data obtained in the Global Burden of Disease study performed in 2017 (GBD 2017).	Low SDI, low-middle SDI	High	4.00	7
He (2021)	China, global	DALY		China presented a steady decline in the incidence and mortality rates for gastric cancer. The global ASIR, ASMR, and DALYs showed a slight rise decrease. Different patterns of gastric cancer rates and temporal	Gastric	Investigate the disease burden of gastric cancer from 1990 to 2019 in China and globally.	Low-SDI	Low	3.36	3

				trends have been identified in different geographical regions, indicating that specific strategies are needed to prevent the increase in some countries.						
Hollestein (2014)	Netherlands	DALY	Cohort	Keratinocyte cancer is a large burden to the Dutch society. Because incidence rates of keratinocyte cancer continue to increase, the management becomes even more challenging.	Keratinocyte cancer	To study time trends of the burden of disease attributable to keratinocyte cancer in The Netherlands.	N/A	Intermediate	11.53	33
Holm (2013)	Denmark	DALY	Case study	Applying selective taxation to healthy and unhealthy foods can moderately reduce the burden of disease in the Danish population.	Colorectal, lung, breast	To estimate the health benefits of selective taxation of healthy and unhealthy food commodities in relation to CVD and nutrition-related cancers.	N/A	Intermediate	3.18	14
Holterhues (2013)	Netherlands	DALY	Cohort	In conclusion, the burden of melanoma in the Netherlands is high and increasing substantially, suggesting a need for healthcare policies to be	Cutaneous melanoma	To determine the burden of disease due to melanoma in the Netherlands.	N/A	High	9.30	27

				adjusted in order to cope with this burden. Our research also shows that even though a disease has a good prognosis for most patients, it can be associated with a great burden to individual patients and society. In addition, there is a general need for an empirical estimation of disability weights and duration of disease.						
Jakobsen (2016)	Denmark	DALY		This result should be used to inform risk management decisions and for comparison with BoD of other food-borne hazards for prioritizing policies. However, our study shows that careful evaluation of methodological choices and assumptions used in BoD studies is necessary before use in policy making.	Kidney, Ovarian, Endometrial, Breast	Estimate the burden of cancer due to dietary exposure to AA in Denmark in terms of dalys and estimate the contribution of different foods to this disease burden.	N/A	High	4.60	28

Jayatilleke (2012)	England, Wales	DALY	Cohort	Highest DALYs were due to lung, breast, prostate and colorectal cancers in England and Wales. The addition of the disability component changes the relative position of some of the top cancers. Although metrics based on deaths alone capture most effects of cancer on population health levels, important additional perspectives, relevant to the planning of services, can be gained from burden of disease analyses.	General	It aims to estimate the burden of cancer in England and Wales using disability-adjusted life years (dalys) and to determine if the ranking of relative importance changes with the metric used.	N/A	High	1.65	25
Ji (2020)	Global	DALY	Cohort	Breast cancer remained a major public health concern globally. The trends of incidence, mortality, and DALYs were heterogeneous across regions and countries, suggesting that the allocation of appropriate health care resources for	Breast	To determine the pattern of breast cancer incidence, mortality, and disability-adjusted life-years (dalys), as well as temporal trends, from 1990 to 2017.	Low SDI, low-middle SDI	Intermediate	6.24	24

				breast cancer should be considered at the national scale and even at the subnational scale.						
Jimenez (2015)	Chile	DALY	Survey	Chile has a rapidly aging population wherein 40% smoke, 67% are overweight, and 18% abuse alcohol, and thus the corresponding burden of cancer will have a negative impact on an affordable health care system. We conclude that the Chilean government must develop a national cancer strategy, which the authors outline herein and believe is essential to permit equitable cancer care for the country.	Stomach, gallbladder	Evaluate existing cancer policy, the extent of the national investigation, and the socio-economic impact of cancer to deliver guidelines for framing an equitable national cancer policy.	N/A	Intermediate	4.78	30
Jung (2019)	South Korea	DALY	Case study	Although research funding was associated with the cancer burden in South Korea during the last decade, the distribution of research funds did not appropriately reflect the changes	General	To assess health research funding allocation in South Korea by analyzing the relationship between government funding and disease burden in	N/A	Intermediate	3.35	1

				in burden nor the differences between the South Korean and global burden levels. The policy-makers involved in health research budgeting should consider not only the absolute burden values for singular years but also the long-term changes in burden and the country-specific burden when they prioritise public research projects.		South Korea, specifically focusing on cancers.				
Kamangar (2020)	Global	DALY	Cohort	Despite reductions in age-standardised incidence and mortality rates, oesophageal cancer remains a major cause of cancer mortality and burden across the world. Oesophageal cancer is a highly fatal disease, requiring increased primary prevention efforts and, possibly, screening in some high-risk areas. Substantial variation exists in age-standardised	Eesophageal	Report the latest estimates of these statistics for 195 countries and territories between 1990 and 2017, by age, sex, and Socio-demographic Index (SDI), using data from the Global Burden of Diseases, Injuries, and Risk Factors Study 2017 (GBD).	Low SDI, low-middle SDI	Intermediate	18-49	55

				incidence rates across regions and countries, for reasons that are unclear.						
Keykhaei (2021)	Global	DALY	Cohort	The QCI provides a robust metric to evaluate the quality of care that empowers policymakers on their responsibility to allocate the resources effectively. We found that there is an association between development status and QCI and gender equity, indicating that instant policy attention is demanded to improve health-care access.	Hematologic malignancies (hms)	Presented a new index of quality of care for hms and used it to compare age groups, different regions, and genders in terms of hms quality of care.	Low SDI, low-middle SDI	Low	3.74	9
Keykhaei (2021)	Global	QCI	Hematologic malignancies (HMs)	Presented a new index of quality of care for HMs and used it to compare age groups, different regions, and genders in terms of HM's quality of care.	Cohort	The QCI provides a robust metric to evaluate the quality of care that empowers policymakers on their responsibility to allocate the resources effectively. We found that there is an association	Low SDI, low-middle SDI	Intermediate	3.74	9

						between development status and QCI and gender equity, indicating that instant policy attention is demanded to improve healthcare access.				
Kim (2006)	Global	DALY	Case-control	The results of our example suggest several key themes: Packaging other interventions during a one-time visit has the potential to increase health gains; the shortage of personnel represents a real-world constraint that can impact the optimal package of services; and the shortage of different types of personnel may influence the contents of the package of services. Our methods provide a general framework to enhance a decision maker's ability to simultaneously consider costs,	Cervical, breast	This analysis aimed to demonstrate an analytic framework that can be used to explore potential advantages of bundling interventions to be delivered in a single visit.	N/A	High	11.07	43

				benefits, and important nonmonetary constraints. We encourage analysts working on real-world problems to shift from considering costs and benefits of interventions for a single disease to exploring what synergies might be achievable by thinking across disease burdens.						
Kim (2011)	Global	DALY	Cohort	While lifesaving benefits of rotavirus and HPV vaccines will be realized at different times, the number of lives saved over each target populations' lifetimes will be similar. Model-based analyses that use a standardized analytic approach and generate comparable outputs can enrich the priority-setting dialogue. Although new vaccines may be deemed cost-effective, other factors including	Cervical	The purpose of this study is to provide early insight into how the comparative impact of different new vaccines could be assessed in resource-poor settings with respect to affordability, cost-effectiveness, and distributional equity.	Low-income countries	High	3.40	29

				affordability and distributional equity need to be considered in different settings. We caution that for priority setting in an individual country, more rigorous comparisons should be performed, using more comprehensive models and considering all relevant vaccines and delivery strategies.						
Kim (2013)	Global	DALY	Cohort	In-country decision makers will need to consider many other factors, such as affordability, acceptability, feasibility, and competing health priorities, when making decisions about cervical cancer prevention. This article forms part of a regional report entitled "Comprehensive Control of HPV Infections and Related Diseases in the Sub-Saharan	Cervical	To estimate cervical cancer cases and deaths averted, disability-adjusted life years (dalys) averted and incremental cost-effectiveness ratios (I\$ (international dollar) per DALY averted) for human papillomavirus (HPV) vaccination of pre-adolescent girls.	Low-income level	Intermediate	3.64	53

				Africa Region" Vaccine Volume 31, Supplement 5, 2013. Updates of the progress in the field are presented in a separate monograph entitled "Comprehensive Control of HPV Infections and Related Diseases" Vaccine Volume 30, Supplement 5, 2012.						
Kim (2018)	Korea	DALY	Survey	The smoking rate of men in Korea exceeded 70% in the 1990s and is still near 40%. Although the size of the effect varies depending on the estimation method, it is a critical aspect as a risk factor of lung cancer because of the synergistic relationship between smoking and radon exposure. Because Korean society is rapidly aging, the population who were formerly heavy smokers are entering a high-risk age of lung cancer.	Lung	The aim of this study was to estimate the mortality and years of life lost, assessed by disability-adjusted life years (dalys), due to breast cancer attributable to physical inactivity in the female population from Brazil and Brazilian states. We also aimed to compare the estimates of mortality and dalys due to breast cancer attributable to physical inactivity with estimates attributable to	N/A	High	2.15	10

						other modifiable risk factors. Finally, we aimed to analyze the temporal trends of the estimates of mortality and dalys due to breast cancer attributable to physical inactivity over 25 years (1990–2015) in comparison with global estimates and according to the socioeconomic status of Brazilian states.				
Kimanya (2021)	Tanzania	DALY	Case-control	These results show, quantitatively, the cases of liver cancer and related deaths that could be avoided, and the healthy life years that could be saved, annually, by strengthening measures to control aflatoxin contamination in Tanzania.	Liver	We estimated aflatoxin-induced liver cancer risk in 2016 for Tanzania and used the information to estimate the health burden due to the aflatoxin exposure in the country	N/A	Intermediate	3.24	4
Kivuti-Bitok (2014)	Kenya	DALY	Cohort	Kenya as a country should consider adoption of secondary /catch up vaccination as an immediate measure to curb	Cervical	This paper presents a simulation model for evaluating the possible effects of a screening and vaccination	N/A	High	2.39	7

				<p>cervical cancer followed by primary vaccination of pre-adolescent girls. Screening should be a complementary measure(s). This model provides a policy decision support vehicle that can allow for choice between different interventions based on their expected outcomes. It also allows modification to accommodate new research results and information to assess the clinical impact of different policies and interventions in cervical cancer management in Kenya.</p>		<p>campaign against Human Papillomavirus [HPV] in Kenya.</p>				
Kristina (2016)	Indonesia	DALY	Cohort	<p>In total, Indonesian burden of cancers attributed to smoking was 638,682 DALY. This study provides evidence about the burden of cancers caused by smoking as a rational basis</p>	General	<p>To estimate the burden of cancers attributable to smoking using indicators DALY consisted of years lived with disability (YLD) and years life lost (YLL) as the first</p>	N/A	Intermediate	2.51	13

				for initiating national tobacco control policies in Indonesia.		study measuring DALY of major cancers in Indonesia.				
Kruijshaar (2004)	Global	DALY	Cohort	Cross-national variation in disease epidemiology was the largest source of variation in the burden of breast cancer. Variation in disability weights and uncertainty in epidemiological data had smaller effects.	Breast	1) compare the burden of breast cancer in six European countries 2) assess the relative impact of the three sources of variation on the estimated dalys for breast cancer, and, specifically, of the dws	N/A	High	2.46	26
Kunnavil (2015)	India	YLL	Breast	To estimate YLL, YLD, DALY's, and loss of expectation of life (LEL) at the national level employing the competing risk approach (CRA)To compute Years of Life Lost (YLL) due to premature mortality, Years of life lost due to Disability (YLD), DALYs, and loss in expectation of life (LEL) using competing risk approach for female breast cancer patients for	Cohort	The present study estimated DALYs using competing risk approach as 40209 per 100,000 females in the lifetime of 0-70+ years with a loss of expectation of 0.11 years. Most of the loss has been observed in the productive years of life between 30-60 years. This type of computation will help identify the burden of such diseases using minimal information in	N/A	High	0.82	0

				the year 2008 in India.		terms of loss or gain of expectation life. It can be easily computed and employs a simpler approach compared to DISMOD2.				
Lee (2014)	Korea	QALYs	Liver	This study was conducted to determine the most cost-effective strategy, in terms of interval and age range, for liver cancer screening in the high-risk population of Korea.	Cohort	In Korea, a one-year screening interval for men aged 50 to 80 years would be marginally cost-effective. Further studies should be conducted in order to evaluate the effectiveness of liver cancer screening and compare the cost-effectiveness of different liver cancer screening programs with a final outcome indicator such as quality-adjusted life-years or disability-adjusted life-years.	N/A	Intermediate	3.94	6
Lee (2018)	Korea	DALY	Cohort	The rapid changes of age structure and lifestyle in South Korea during the last decade are expected to strongly increase	Breast	The aim of this study was to estimate the burden of breast cancer that can be attributed to rapid lifestyle changes	N/A	Intermediate	4.68	12

				the breast cancer burden over time unless the risk factors can be effectively modified.		in South Korea in 2013-2030.				
Lee (2019)	Korea	DALY	Cohort	Obesity has added to the health burden of cancer. By measuring the proportion of cancer burden attributable to excess BMI, the current findings provide support for the importance of properly allocating healthcare resources and for developing cancer prevention strategies to reduce the future burden of cancer.	General	To measure the health burden of cancer attributable to excess BMI, according to cancer sites.	N/A	Low	4.68	4
Leung (2008)	China	DALY	Cohort	Screening uptake patterns are suboptimal. By making explicit the possible risks and benefits based on this template, policymakers in developing Asia with a similar female cancer burden may be able to use the information to make evidence-	Cervical, Breast	To estimate the proportion of and characterize women who had received cervical and breast screening and quantify the associated preventable burden of disease and potential iatrogenic harm.	Low "monthly personal income."	High	1.65	17

				based decisions that are consistent with local circumstances, values, and preferences.						
Lewison (2020)	Ireland	DALY	Case study	The AICC collaborative agreement delivered significant additionality on the island of Ireland, promoting transnational cooperation, enhancing cancer research activity and underpinning improved cancer services and better cancer outcomes.	General	To consider if AICC increased the amount/impact of cancer research on the island of Ireland and what effect this enhanced research activity had on cancer services and cancer outcomes.	N/A	High	9.16	2
Li (2015)	China	PYLL	General	To evaluate the cancer burden in elderly Chinese in 2005–2011 by calculating cancer burden indices, including incidence, mortality, potential years of life lost (PYLLs), DALYs, PYLL rate, and DALY rate.	Case study	This population-based study demonstrated that elderly Chinese have a considerable cancer burden, and this was higher in men and rural districts than in women and urban districts, respectively. Comprehensive measures for cancer prevention and treatment should be	N/A	Intermediate	3.39	19

						implemented to reduce this cancer burden. Future studies should be conducted with long-term, continuous data to evaluate the economic impact and factors influencing the cancer burden in the elderly.				
Li (2019)	Global	DALY	Case-control	The increasing global breast cancer burden is mainly observed in lower SDI countries; in higher SDI countries, the breast cancer burden tends to be relieving. Therefore, steps against attributable risk factors should be taken to reduce breast cancer burden in lower SDI countries.	Breast	To estimate breast cancer incidence, deaths, and disability-adjusted life years (dalys) by country, gender, age group, and social-demographic status between 1990 and 2017.	Low- and middle-income SDI	Intermediate	17.39	135
Li (2021)	China	DALY	Cohort	Although the age-standardized burden of esophageal cancer has been declining, the number of new cases and deaths from esophageal cancer has increased in China	Esophageal	To provide an evidence-based assessment of the efficacy of current prevention and therapeutic to reduce the burden of esophageal cancer in China.	N/A	Low	3.36	1

				over the past 30 years, and they will continue to increase in the near future. Hence, national policies should be adopted to promote the prevention and management of known risk factors for it, especially smoking and excessive caloric intake.						
Li (2021)	China	DALY	Cohort	The burden of thyroid cancer in China showed unexpected patterns that varied by sex, age, and year. Notably, males had higher average annual percentage changes in thyroid cancer incidence and mortality rates than females. More attention should be given to improving the thyroid cancer burden in males in China.	Thyroid	To analyze data from GBD 2019 to examine the time trend of the burden of thyroid cancer in China and to explore net age, period, and cohort effects under the age-period-cohort framework.	N/A	Intermediate	5.56	0
Li (2021)	Global	DALY	Cross-sectional analytic study	For most OCs, the attributed cancer outcome was tracheal, bronchial, and lung cancer, which accounted	General	To estimate the degree of exposure and evaluate the cancer burden attributable to	Low SDI, medium-low SDI	High	8.48	2

				for 89.0% of attributable cancer deaths. China (61 644 cancer deaths), the US (42 848), and Japan (20 748) accounted for the largest number of attributable cancer deaths in 2017; for DALYs, China (1.47 million), the US (0.71 million), and India (0.37 million) were the 3 leading countries.		occupational carcinogens (ocs) individually and collectively by sex, age, year, and location.				
Liang (2018)	China	DALY	Cohort	This study is the first to analyze cancer burden for the last 40 years in a middle-income province. It could provide a baseline for assessment of the effectiveness of cancer prevention and control. Esophagus cancer had a significant declining trend because of the endoscopy screening program. Enhancing screening programs in those aged 40-69 year-old is necessary for reducing the cancer burden.	General	This study aimed to assess the overall cause-specific mortality cancer trend and disability-adjusted life years (dalys) between 1973–1975 and 2011–2013 in North China (Hebei Province).	Middle-income province	Intermediate	4.38	6

Liao (2017)	China	DALY	Cohort	PM2.5 has caused a serious, but under-appreciated public health burden in Guangzhou, and the trend deteriorates. Effective strategies are needed to tackle this major public health problem.	Lung	To estimate the lung cancer burden that may be attributable to ambient fine particulate matter (PM2.5) pollution in Guangzhou city in China from 2005 to 2013.	N/A	Intermediate	3.12	18
Lin (2019)	China	DALY	Cohort	Women at 65–89 years carry the highest lung cancer burden among other age groups in Guangzhou. The DALY rate of lung cancer is projected to increase most precipitously for the 45–64 years age group. This indicates that concerted efforts are needed to develop adequate cancer services and reassess health resources for control and care of lung cancer in these populations.	Lung	A) to use cancer registry data to provide an estimate of the burden of lung cancer among women residing in Guangzhou, China, and b) to forecast the future lung cancer burden to provide detailed age-sex-specific DALY estimates.	N/A	Intermediate	2.98	5
Lin (2021)	Global	DALY	Cohort	The rapid increases in the prevalent cases and prevalence rate of leukemia is urgent	Leukemia	Describe the spatial and temporal trends of the annual leukemia	Low-SDI	Intermediate	5.68	0

				to be solved in the future.		incidence, prevalence, mortality, and disability-adjusted life years (dalys) from 1990 to 2017				
Lippi (2020)	Global	DALY	Case-control	Although pancreatic cancer remains relatively infrequent, its clinical, societal and economic burden is noteworthy. Future projections suggest that its burden may double during the next 40 years.	Pancreas	Provide here an overview on the current worldwide epidemiology of pancreatic malignancies, obtained from Global Health Data Exchange (ghdx) and World Health Organization (WHO) repositories.	Low SDI, low-middle SDI	High	3.32	8
Liu (2015)	China	DALY	Cohort	The burden of disease attributable to ambient particulate matter pollution was very high in China with significant increase in mortality and disability, which indicates the highly necessity for government to take actions to reduce ambient particulate matter pollution and its health hazards.	Lung	To assess the disease burden attributable to ambient particulate matter pollution in 1990 and 2010 in China.	N/A	Intermediate	1.00	11

Liu (2020)	Global	DALY	Cohort	The ASMRs of liver cancer and cirrhosis caused by hepatitis B and C were decreased at the global level and in most regions. However, a significant increase was observed in several developed countries, such as the USA and the UK. The disease burden of viral hepatitis continues to increase worldwide, which was driven by the increase in burden of chronic hepatitis B and C.	Liver	To analyze the disease burden of viral hepatitis at the global, regional, and national levels.	Low SDI, low-middle SDI	Intermediate	3.73	12
Lloyd (2013)	Country not specified	DALY	Randomized controlled trial	In multivariate analysis, prevalence ($P < .01$) and PYLL ($P < .01$) had the strongest association with planned RCT enrollment. Findings showed, therefore, that planned cancer RCT enrollment is associated with higher societal disease burden, not the quality of a cancer's clinical guidelines.	General	This study assessed the relationship between cancer research efforts in terms of planned randomized controlled trial (RCT) enrollment, objective measures of evidence quality, and cancer burden on society.	N/A	High	11.91	1

Lorant (2002)	Belgium	IHI	General	The paper aims to assess inequity in prevention and compare socioeconomic inequity in preventive medicine with health care.	Cross-sectional analytical study	If inequity in preventive medicine is to be lowered, the role of the GP must be fostered and access to specialty medicine increased, especially for cancer screening.	Low SES	High	3.34	179
Lortet-Tieulent (2016)	United States	DALY	Cohort	The cancer burden was highest in NHBs, followed by NHWs, Hispanics, and non-Hispanic Asians. In all races/ethnicities, the cancer burden was largely driven by YLLs, highlighting the need to prevent death at middle age through the broad implementation of structural and behavioral measures of primary prevention, early detection, and treatment.	General	The burden of cancer in 2011 was assessed by race/ethnicity for 24 cancers using disability-adjusted life years (dalys)	N/A	Intermediate	5.04	22
Lortet-Tieulent (2017)	United States	DALY	Cohort	Smoking-attributable cancer burden was substantial in all racial and ethnic groups, underscoring the	General	We report the contemporary estimates of cigarette smoking-attributable dalys for the U.S.	Racial/ethnic groups (NHB, Hispanic, and NHA)	Intermediate	2.30	10

				need for intensified tobacco cessation in all populations.		overall and by race/ ethnicity.				
Lozano-Lozano (2020)	Spain	DALY	Cohort	The BENECA mHealth lifestyle application with a supervised rehabilitation program had a statistically and clinically significant effect on QoL and upper-limb functionality in breast cancer survivors and is a unique and important promising new approach.	Breast	To compare the clinical efficacy of the BENECA mobile Health (mhealth) lifestyle application combined with a supervised rehabilitation program (BENECA and supervised rehabilitation) versus the BENECA healthy lifestyle application alone on quality of life (qol) and functional outcomes of breast cancer survivors.	N/A	High	4.92	8
Lunevicius (2015)	Lithuania	DALY	Cohort	The YLDs per 100,000 individuals per year in Lithuania increased by 61.1% between 1990 and 2010. However, Lithuania was below the average of the Central & Eastern, Southern, Northern and Western regions of Europe. It was	Colorectal	To assess the national burden of colorectal cancer in Lithuania and to determine the performance of Lithuania for the control of colorectal cancer compared with 45 European nations by ranking.	N/A	Low	1.55	7

				concluded that the national colorectal cancer service provision should be amplified and that a programme for the prevention and control of colorectal cancer is required.						
Ma (2021)	China	DALY	Cohort	The qHPV vaccine requires at least a 50% price reduction to be cost-effective. Vaccinating schoolgirls will result in a large population health benefit in the long term, but such a universal HPV vaccination program can only be cost-effective with a substantial price reduction.	Cervical	To evaluate the population impact and cost-effectiveness of strategies that combined cervical cancer screening and HPV schoolgirl vaccination for Chinese women	N/A	Low	2.62	2
Mackenzie (2008)	Australia	DALY	Case study	The current predominance of reports on breast and cervical cancer and young women with cancer may be distorting public and political perceptions of the burden of cancer. The success of advocates in raising the news	General	To test the hypothesis that television news coverage of different cancers reflects their incidence and burden and to examine the journalistic approaches used in reporting cancer	N/A	Intermediate	7.74	24

				profile of breast cancer MJA 2008; 189: 155–158 may hold lessons for agencies wishing to improve the newsworthiness of other cancers.						
Mahumud (2019)	Australia	DALY	Cohort	This cost-effectiveness evaluation suggests that the routine two-dose 9vHPV vaccination strategy of preadolescent girls against HPV is very cost-effective in Australia from both the health system and societal perspectives. If equally priced, the 9vHPV option is the most economically viable vaccine. Overall, this analysis seeks to contribute to an evidence-based recommendation about the new 9vHPV vaccination in the national immunization program in Australia.	Cervical	To assess the cost-effectiveness of adding a monovalent new Gardasil-9® (9vhpv) vaccine to the national immunization schedule in Australia across three different delivery strategies.	N/A	Intermediate	3.24	4
Mahumud (2019)	Bangladesh	DALY	Cohort	Introducing a two-dose bi-valent HPV	Cervical	To evaluate the potential health	The present study used	High	3.64	4

				<p>vaccination program is cost-effective in Bangladesh at Gavi negotiated prices. Vaccine price is the dominating parameter for the cost-effectiveness of bivalent and quadrivalent vaccines. Both vaccines are not cost-effective at listed prices in Bangladesh. The evaluation highlights that introducing the two-dose bivalent HPV vaccine at Gavi negotiated prices into a national immunization program in Bangladesh is economically viable to reduce the burden of cervical cancer.</p>		<p>and economic impacts of introducing two-dose bivalent (Cervix) and quadrivalent (Gardasil) HPV vaccines in Bangladesh.</p>	<p>the sets as defined specifically for Bangladesh (borderline low or low middle-income countries cut-off values; 4% to 51% of GDP value)</p>			
Majidi (2017)	Iran	DALY	Survey	<p>This study found hypothetical correlations between cancer publications in Iran in line with the burden of cancer as reported by GBD. Particularly,</p>	General	<p>This study aims to demonstrate that cancer research in Iran concentrates on the cancer research priorities based on the global burden of</p>	N/A	Intermediate	1.65	12

				correlations between years lived with disability (YLD) and cancer-related publications were more obvious.		disease (GBD) reports.				
Marcellusi (2017)	Italy	DALY	Cohort	When mortality due to cervical cancer is considered, HPV vaccination seems to have a low impact on health unit gains in the Italian female population. Conversely, when several HPV-related and cancer morbidity conditions are included, the effect of vaccination becomes quite remarkable. In conclusion, this work is a first attempt to evaluate the actual effect of vaccination on women's health in Italy by including several HPV related diseases in addition to cancer morbidity. In our opinion, the model represents a useful tool for measuring	Cervical	The aim of this study is to evaluate the effect of the current HPV vaccination strategy in Italy.	N/A	Intermediate	4.21	6

				<p>the effects of health care intervention on a population, particularly in the long term. In fact, from this perspective, the impact of HPV vaccination strategies may increase, by affecting the vaccination coverage and the inclusion of males in vaccination programs, but also by developing secondary prevention strategies.</p>						
Marcellusi (2017)	Italy	QALYs	Cervical	<p>This study aims to evaluate the effect of the current HPV vaccination strategy in Italy.</p>	Cohort	<p>When mortality due to cervical cancer is considered, HPV vaccination seems to have a low impact on health unit gains in the Italian female population. Conversely, when several HPV-related and cancer morbidity conditions are included, the effect of vaccination becomes quite</p>	N/A	Intermediate	4.21	6

						<p>remarkable. In conclusion, this work is a first attempt to evaluate the actual effect of vaccination on women's health in Italy by including several HPV related diseases in addition to cancer morbidity. In our opinion, the model represents a useful tool for measuring the effects of health care intervention on a population, particularly in the long term. In fact, from this perspective, the impact of HPV vaccination strategies may increase, by affecting the vaccination coverage and the inclusion of males in vaccination programs, but also by developing secondary prevention strategies.</p>				
Martins (2020)	Portugal	DALY	Cohort	The present study generated for the	General	To assess the exposure of the	N/A	Intermediate	6.48	8

				<p>first time and within a human biomonitoring study, reliable and crucial data to characterize the burden associated to the exposure to aflatoxins of the Portuguese population. The obtained results constitute an imperative support to risk managers in the establishment of preventive policy measures that contribute to ensure public health protection.</p>		<p>Portuguese population to mycotoxins through an HBM study with the quantification of five aflatoxins' urinary biomarkers.</p>				
Maruthappu (2017)	United Kingdom	DALY	Cohort	<p>Research funding for cancer is not allocated according to relative disease burden. These findings are in line with earlier published studies. Funding agencies and industry should openly document their research investments to improve better targeting of research investments.</p>	General	<p>To systematically categorize cancer research investment awarded to United Kingdom (UK) institutions in the period 2000–2013 and to estimate research investment relative to disease burden as measured by mortality, disability-adjusted life years (dalys), and years lived</p>	N/A	Intermediate	2.69	24

						with disability (ylds).				
Matsumoto (2021)	Japan	DALY		Our benefit-risk assessment of HPV vaccine helped estimate various scenarios pertaining to HPV vaccination and identify the best strategy regarding HPV vaccination. This benefit-risk assessment approach may be used for other vaccines and vaccination programs.	Cervical	To conduct a benefit-risk assessment of HPV vaccination and explore different consequent scenarios to identify potential improvements to the current Japanese immunization program.	N/A	High	1.78	0
Mcdonald (2017)	Netherlands	DALY	Cohort	The HPV-associated disease burden is higher than that reported for any other infectious disease in the Netherlands, with a larger burden observed in women than in men. The rapidly rising male share of the total burden underlines the prioritization of male HPV-related disease in prevention programmes.	General	Besides cervical cancer, HPV infection is linked to many diseases in both males and females, suggesting that vaccination programs should be re-evaluated, with a reasonable assessment of the disease burden stratified by sex, age, and genotype.	N/A	High	2.30	24

McLeod (2014)	New Zealand	HALYs	Lung, Breast, Colon	To illustrate how health gain variations by social group are influenced by differences in these latter underlying epidemiological parameters, as a fundamental first step toward an equity agenda.	Case-control Study	Cost-effectiveness modeling is a useful tool in the prioritization of health services. But there are important (and sometimes counterintuitive) implications of including ethnic-specific background and disease parameters. In order to avoid perpetuating existing ethnic inequalities in health, such analyses should be undertaken with care.	Ethnic-specific (Māori and non-Māori)	Intermediate	4.21	29
McLeod (2020)	New Zealand	HALE & HALYs	Lung	We model the potential lifetime health gains, equity impacts, and cost-effectiveness of a national low-dose CT (LDCT) screening program for lung cancer in smokers aged 55–74 years with a 30 pack-year history, and former smokers who have quit within the last 15 years.	Cohort	A national biennial LDCT lung cancer screening program in New Zealand is likely to be cost-effective, will improve total population health, and reduce health inequities for Māori. Attention must be paid to addressing ethnic inequities in stage-specific	Indigenous Māori population	High	2.69	6

						lung cancer survival.				
Melaku (2018)	Australia	DALY	Case study	The incidence of cancer has increased over 25 years, and behavioral risks are responsible for a large proportion of cancer deaths. Scaling up of prevention (using strategies targeting cancer risk factors), early detection, and treatment of cancer is required to effectively address this growing health challenge.	General	We aimed to assess cancer burden – incidence, prevalence, mortality, disability-adjusted life years (dalys) – and attributable risk factors for Australia between 1990 and 2015 and compare them with those of 34 members of the Organisation for Economic Co-operation and Development (OECD).	N/A	Low	2.98	23
Modirian (2015)	Iran	DALY	Survey	The burden of all non-communicable diseases (NCDs) including cancers shows a decrease during the past two decades.	General	To report the results of the Global Burden of Disease Study 2010 (the GBD 2010) to compare them with other similar findings. The paper also discusses the current deficiencies in the GBD study. Our aim was to describe and criticize the attributed burden of cancers	Low-income countries	Intermediate	1.09	8

						according to the GBD results.				
Modirian (2015)	Iran	DALY	Survey	DALY as thyroid cancer burden per 100,000 Iranian populations had increased by about 14% during 1990 to 2010 in all ages; from 6.1 (95% UI 4.2-9.74) years in 1990 to 6.95 (95% UI 5.06-9.18) years in 2010 in both sex. The 2010 peak age-group was estimated at 45-49 years in males and 40-45 years in females.	Thyroid	To address the burden of thyroid cancer in the Iranian population from 1990 to 2010 based on IHME Global report 2010.	N/A	High	2.51	6
Mohan (2011)	United States	HALE	Prostate	Studied the usefulness of SRH in estimating HALE in patients considering treatment for LPC.	Cross-sectional	SRH is an easy-to-use indicator of HALE in LPC patients. A table for HALE estimation by age and SRH is provided for men aged 70–80 years. Additional research with larger samples and prospective study designs are needed before the SRH method can be used in primary care and urology settings.	Family income <\$50,000	Low	4.15	31

Molassiotis (2021)	Global	DALY	Cohort	These data further support the positive effects of BCS in relation to age-standardized BC mortality rates, and for the first time show the impact of BCS on DALYs too. Additional factors, such as diabetes, high levels of LDL-c or smoking seemed to be related to BC mortality and disability, and could be considered as additional components of possible interventions to be used alongside BCS to optimize the BCS benefit on patients	Breast	To evaluate the relative contribution of BCS approaches to age standardized mortality and disability-adjusted life years (dalys) rates along with other related risk factors from a country-level perspective.	Low-income countries	Intermediate	6.54	0
Moore (2016)	Australia	DALY	Cohort study	Indigenous women with breast cancer received comparable treatment to their non-Indigenous counterparts. The higher proportion of DALYs related to early death in Indigenous women suggests higher fatality with breast	Breast	Compare patterns of care, comorbidity, disability-adjusted life-years (DALYs), and survival in Indigenous and non-Indigenous women with breast cancer in Queensland,	Indigenous and non-Indigenous women	Intermediate	3.38	17

				cancer in this group. Later stage at diagnosis and higher comorbidity presence among Indigenous women reinforce the need for early detection and improved management of the co-existing disease.		Australia (1998–2004)				
Morampudi (2017)	Australia , Philippines, Singapore	DALY	Cohort	Strategies for prevention, early diagnosis, and prompt treatment must be devised for diseases where the major burden is due to mortality.	Lung	This paper aims to understand the economic burden of lung cancer in terms of disability-adjusted life years (DALY) in Australia, the Philippines, and Singapore.	N/A	High	4.25	15
Mota (2021)	France	DALY	Cohort	Regarding IDA (scenario built with fixed ground beef amount), for young population, a consumption of 375g/w would be sufficient to eliminate the burden while for 25-44 years-old females, 455g/w would reduce IDA, but not entirely. This study highlighted the importance of assessing health risk-benefit per	Colorectal	To study altogether health risks and benefits related to the consumption of red meat and then to express the results in a single unit for comparison, the DALY.	N/A	Intermediate	4.60	1

				sub-populations and the necessity of communicating the results accordingly.						
Mousavi (2006)	Iran	DALY	Cohort	Breast cancer is a high burden in the community. More than 36% of the tumors occur in women under 40 years old. Comprehensive national cancer control programs including promotion of awareness, early detection, treatment and palliative cares are vitally important for decreasing the burden of breast cancer in Iran. This strategy should be strongly recommended to policy makers and special programs should be considered for women under 40 years old.	Breast	This study was designed to estimate the burden of breast cancer in Tehran, the capital of Iran.	N/A	Intermediate	2.51	76
Mubarik (2020)	China	MRs	Breast	To estimate breast cancer mortality and disability-adjusted life years (DALYs) across age, period, and cohort based on	Cohort	Increased age and obesity contribute to substantially raised breast cancer MRs and DALYs in China and around the	N/A	Intermediate	3.39	6

				different risks, including higher BMI, low physical activity, smoking, and alcohol consumption.		globe. These discoveries shed light on protective health policies and provision of healthy lifestyle for improving the subsequent breast cancer morbidity and mortality for China, as well as other related Asian regions that are presently facing the same public health challenges.				
Mubarik (2021)	Global	DALY	Cohort	The age-standardized rates of mortality and DALYs due to BC has been increasing in low-SDI region. Alcohol consumption, high body mass index (BMI), high FPG, and smoking are potential BC risk factors particularly in older ages that leading to adverse disease outcomes. Therefore, rapid aging and prevalence of these prospective risk factors may strengthen the increasing	Breast	To compares the trends in BC mortality and disability-adjusted life years (dalys) attributable to various health and lifestyle risk factors among different world's regions according to the sociodemographic index (SDI)	Low-SDI	High	4.22	1

				mortality and DALYs of BC in low-SDI region. Hence, preventive measure along with strict action against concerned BC risk factors should be taken to reduce the disease burden specifically among lower-SDI regions						
Murillo-Zamora (2018)	Mexico	DALY	Cohort	The present study provides an indication of the burden of cancer at the regional level, underscoring the need to expand cancer prevention, screening, and awareness programs, as well as to improve early diagnosis and medical treatment.	General	This study aimed to estimate the cancer burden in the state of Colima from 2010–2014 using the dalys as a health measure.	N/A	Low	3.39	7
Murthy (2010)	India	DALY	Cohort	According to the present estimates, the YLL component of DALY is about 70.0%. The above described computations reveal an urgent need for initiating primary and secondary prevention	General	To estimate the burden of cancers in terms of YLL, YLD, and DALY for “all sites” and leading sites of cancer in India for the years 2001, 2006, 2011, and 2016.	N/A	High	2.51	39

				measures for control of cancers.						
Neves (2021)	Portugal	DALY	Cohort	The mortality rate in MM means that most DALYs are due to years of life lost rather than years lost due to disability. This study generates comprehensive data on the burden and cost of MM in Portugal and provides updated insights into the costs associated with the management of MM.	Multiple myeloma (MM)	Assess the burden and cost of MM in Portugal from the perspective of the National Health Service (NHS) to support the definition of health policies, resource allocation, and patient care.	N/A	High	4.98	1
Nguyen (2019)	Korea	DALY	Case-control	It is imperative that more stringent steps be taken to reduce the huge economic burden of cancers linked to smoking.	General	Investigates the economic costs of cancers related to smoking in Korea in 2014	N/A	High	2.09	7
Niëns (2014)	Costa Rica, Mexico	DALY	Case-control	The results of this study should be interpreted with caution however, as the evidence on the intervention effectiveness is uncertain. Also, these programs require several organizational, budgetary and human resources,	Breast	This paper identifies the most cost-effective interventions for breast cancer control in Costa Rica and Mexico from a health care perspective.	N/A	Intermediate	3.24	28

				and the accessibility of breast cancer diagnostic, referral, treatment and palliative care facilities should be improved simultaneously. A gradual implementation of early detection programs should give the respective Ministries of Health the time to negotiate the required budget, train the required human resources and understand possible socioeconomic barriers.						
Ning (2020)	Global	DALY	Cohort	The disease burden of CML decreased globally, especially in higher SDI countries in the past 28 years. The increasing incidence cases and death cases were mainly observed in lower SDI countries. Additionally, strategies to control modifiable risk factors such as	Chronic myeloid leukemia	We described the incidence, deaths, disability-adjusted life-years (dalys), and its attributable risk factors of CML by age, sex, geographical regions, social-development index (SDI) on specific CML data from the (GBD) study 2017.	Low SDI, low-middle SDI	Intermediate	3.74	6

				smoking and high body mass index might be useful in diminishing mortality and DALYs.						
Noh (2020)	Korea	DALY	Cohort	During the last decade, the lung cancer disease burden increased by 1.34 times, with a doubled percentage of non-fatal burden and average annual growth rate of 9.5% of the total cost. Hence, the burden and cost of lung cancer in Korean provinces have been steadily increasing. The findings could be used as input data for future cost-effectiveness analysis of policies regarding radon reduction.	Lung	To estimate the lung cancer burdens attributable to residential radon in Korea using disability-adjusted life years (DALY) and patients' annual economic burden with societal perspectives using the cost-of-illness (COI) method.	N/A	Intermediate	7.96	1
Norman (2007)	South Africa	DALY	Survey	The most important interventions to reduce this impact include access to cleaner household fuels, improved stoves, and better ventilation.	Lung	To estimate the burden of disease attributed to indoor air pollution from household use of solid fuels in South Africa in 2000 by population group.	Rural	High	1.33	83

Novaes (2015)	Brazil	DALY	Cohort	Vaccine introduction could contribute additional benefits in controlling cervical cancer, but it requires large investments by the NIP. Among the essential conditions for attaining the expected favorable results are immunization program sustainability, equity in a population perspective, improvement of the screening program, and development of a surveillance system.	Cervical	To evaluate the impact and cost-effectiveness of introducing universal human papillomavirus (HPV) vaccination into Brazil's National Immunization Program (NIP).	N/A	High	3.64	27
Oberoi (2019)	Global	DALY	Cohort	In summary, GEMS cluster data for global food consumption were used to estimate global exposures to arsenic in food and the consequent burdens of cancer and non-cancer CHD. These burdens are significant and suggest that global burden of disease can be reduced by	Lung, skin, bladder	Estimate the global burdens of disease expressed as Disability-Adjusted Life Years (dalys) for lung, skin, and bladder cancers, as well as coronary heart disease (CHD) attributable to inorganic arsenic in food.	N/A	High	6.50	22

				consuming foods with less arsenic content. This is especially true for the burden of CHD as consuming foods containing the lower boundary of bioavailable, iAs pose little or no risk.						
Oh (2012)	Korea	DALY	Case study	Among all cancers, cancers of the trachea, lungs and bronchus are the leading causes of health and economic burden. The huge burden caused by cancers linked to smoking makes it imperative that adequate policies to decrease the prevalence of smoking be developed, particularly considering the recent increase in smoking rate among women.	General	The purpose of this study was to provide up-to-date estimates of the health and economic burden of cancer caused by smoking and to compare the results with those of previous studies.	N/A	Intermediate	2.51	33
Oliveira (2008)	Brazil	DALY	Case-control	Smoking is an important risk factor and places a significant disease burden on Rio de Janeiro, Brazil, showing a pattern similar to that	General	To estimate the disease burden attributable to smoking in the State of Rio de Janeiro, Brazil, for the year 2000.	N/A	High	2.37	16

				observed in high-income countries.						
Ouyang (2021)	Global	DALY	Cohort	GBTC remains a major health burden worldwide. These findings are expected to prompt policymakers to establish a cost-effective method for the early diagnosis, prevention, and treatment of GBTC, reducing its modifiable risk factors and reversing its increasing trends.	Gallbladder, biliary tract	"A comprehensive evaluation of the burden is crucial to improve strategies for GBTC prevention and treatment."	Low-SDI	Low	6.07	7
Pan (2014)	China	DALY	Survey	The risk was highest in northeast China while lowest in northwest China. As for the 35 cities, Tianjin had the highest risk while Yinchuan had the lowest. This study attempted to use DALYs for the risk assessment of DBPs, which will provide useful information for risk comparison and prioritization of hazards in drinking water.	Bladder	This study attempted to use dalys for the risk assessment of dbps, which will provide useful information for risk comparison and prioritization of hazards in drinking water.	N/A	Intermediate	10.59	69
Park (2013)	Korea	DALY	Cohort	Korea's convergence with	General	This study estimates the	N/A	Intermediate	2.98	30

				<p>other advanced nations in cancer burden might reflect their convergence in living standards, the age structure, health behavior and medical technology during the past four decades. These transitions have been reflected in the Second 10-Year Plan for Cancer Control in Korea during 2006–2015, government policy consisting of four main programs, i.e., primary prevention, early detection, diagnosis/ treatment and palliative care.</p>		<p>burden of cancer in Korea during 2000–2020, ameliorating the Global Burden of Disease Study Group (GBD) method with the Incidence–Prevalence–Mortality (IPM) Model.</p>				
Patel (2019)	Global	DALY	Case study	<p>CNS cancer is responsible for substantial morbidity and mortality worldwide, and incidence increased between 1990 and 2016. Significant geographical and regional variation in the incidence of CNS cancer might</p>	Brain and CNS cancers	<p>To provide a comparative and comprehensive estimation of the global burden of brain cancer between 1990 and 2016.</p>	Low sociodemographic index (SDI)	High	44.18	154

				be reflective of differences in diagnoses and reporting practices or unknown environmental and genetic risk factors. Future efforts are needed to analyse CNS cancer burden by subtype.						
Pederson (2015)	Country not specified	DALY	Case-control	The representation of otolaryngologic conditions in CDSR correlates poorly with DALY metrics. The results of this study may guide future research prioritization and allocation of funds.	General	The main aim of this study was to assess the representation of 10 otolaryngologic conditions studied by GBD 2010 within CDSR and determine whether representation corresponds to disease burden estimates for each condition	N/A	Intermediate	6.22	10
Permitasari (2018)	Indonesia	DALY	Cohort	In total, DALYs 6 cancer diseases due to secondhand smoke analyzed in this study were 283,360 DALYs. Thus, the results of the research can be used as a basis for further policies making on national cigarette prevention and	General	This study aimed to determine the number of secondhand smoke attributable fractions (safs) of six cancers (lung, bladder, colorectal, stomach, pancreas, and larynx) and burden of cancer caused by	N/A	Low	2.52	13

				control in Indonesia.		secondhand smoking in Indonesia using Disability Adjusted Life Years (dalys) indicator.				
Pham (2011)	Japan	DALY	Cohort	The national cancer burden in Japan was expressed in terms of DALY, which might be useful in assessing future changes with respect to mortality and morbidity in Japan	General	Estimate the cancer burden in Japan for the year 2000.	N/A	Intermediate	3.69	15
Pishgar (2019)	Global	DALY	Cohort	Although the mortality rate for TCa has decreased over recent decades, large disparities still exist in TCa mortality, probably as a result of lack of access to healthcare and oncological treatment. Timely diagnosis of this cancer, by improving general awareness, should be prioritized. In addition, improving access to effective therapies and trained healthcare	Testicular	To provide estimates on the global incidence, mortality, and disability-adjusted life years (dalys) associated with testicular cancer (tca) between 1990 and 2016, using findings of the Global Burden of Disease (GBD) 2016.	Low-SDI	High	5.59	20

				workforces in developing and under-developed areas could be the next milestones.						
Pourshams (2019)	Global	DALY	Cohort	Globally, the number of deaths, incident cases, and DALYs caused by pancreatic cancer has more than doubled from 1990 to 2017. The increase in incidence of pancreatic cancer is likely to continue as the population ages. Prevention strategies should focus on modifiable risk factors. Development of screening programmes for early detection and more effective treatment strategies for pancreatic cancer are needed.	Pancreas	This study is the first to investigate the association between development status (measured by the Socio-demographic Index [SDI]) and pancreatic cancer incidence and mortality at the national level.	Low-income locations	Intermediate	18.49	157
Qi (2009)	China	DALY	Cohort	Hepatitis B, liver cirrhosis, and liver cancer caused a considerable burden to the people living in Shandong province, indicating that the	Liver	To comprehensively measure the burden of hepatitis B, liver cirrhosis, and liver cancer in Shandong province, using	N/A	Intermediate	0.00	7

				control of hepatitis B virus infection would bring huge potential benefits.		disability-adjusted life years (dalys) to estimate the disease burden attributed to hepatitis B virus (HBV) infection.				
Qi (2016)	China	DALY	Cohort	Both the incidence and mortality of prostate cancer showed significant increase in China. Prevention and control programs on prostate cancer should be strengthened.	Prostate	To analyze the disease burden of prostate cancer among men in China in 1990 and 2013.	?	Intermediate	0.00	31
Qin (2021)	Global	DALY	Cohort	The observed correlation between SDI and disease burden suggests that strategically implementing the screening and eradication of Helicobacter pylori, improving the medical level in countries with low SDI, and promoting the implementation of tobacco cessation policies would help reduce the disease burden of stomach cancer.	Stomach	To analyze (i) variations in changing trends in the burden of stomach cancer according to age and sex and (ii) the relationship between the ASR in stomach cancer and these trends and sociodemographic index (SDI) to provide a scientific reference point to study the etiology of stomach cancer and for the development of early prevention	Low-SDI	High	4.48	0

						strategies and measures.				
Qing (2020)	China	DALY	Cohort	In summary, our study suggested that while regulating the contamination in foods, attention should also be paid to the potential impacts of dietary structure and guidelines on the exposure of pollutants.	General	To provide a scientific basis for the government's Cd monitoring, risk management, policy formulation, and rational allocation of health resources, as well as provide a paradigm for risk assessment and disease burden in areas similar to Shanghai.	N/A	Intermediate	7.96	9
Rahmani (2018)	Iran	DALY	Cohort	Esophageal cancer is still a public health issue in Iran. Most of DALYs were due to years of life lost (YLL), suggesting the need for prevention, early detection, and screening programs. P-value was statistically significant just between male and female groups ($p < 0.05$).	Esophageal	To provide potential solution recommendations for achieving accurate estimations regarding the burden of the disease in Iran, we designed a study to assess the burden of esophageal cancer in Iran during 1995-2015 by collecting data from the Global Burden of Disease studies.	N/A	Intermediate	0.90	9
Ralaidovy (2018)	Southeast Asia and	HeaLY	Breast, cervical,	To present results of analyses identifying how	Cohort	The results demonstrate that cancer prevention	N/A	Intermediate	2.39	21

	eastern sub-Saharan Africa		colorectal	decision-makers can achieve maximum health gain using the cancer interventions listed in Appendix 3. We also present methods used to calculate new WHO-CHOICE cost-effectiveness results for breast cancer, cervical cancer, and colorectal cancer in Southeast Asia and eastern sub-Saharan Africa.		and control interventions are cost-effective and can be implemented through a step-wise approach to achieve maximum health benefits. As the global community moves toward universal health coverage, this analysis can support decision-makers in identifying a core package of cancer services, ensuring treatment and palliative care for all.				
Ramazani (2021)	Global	DALY	Cohort	Despite a decrease in the incidence of gastric cancer and, possibly, due to late diagnosis and poor health services, the attenuation of gastric cancer is high in MENA countries. Therefore, it is recommended to reduce the attenuation of screening programs before 50 years old for early detection	Gastric	To compare the burden of gastric cancer in MENA countries with appropriate policies to reduce the incidence and mortality of gastric cancer in the region.	N/A	Intermediate	2.89	2

				in addition to prevention programs and to reduce smoking, especially in men.						
Ramsey (2018)	Global	DALY	Case-control	This is the first analysis that we are aware of investigating health disparities of LC at a global level. The global burden of the disease has declined, which is a trend corresponding to significantly reduced smoking behaviors in developed countries. Although the global inequality gap decreased between 2010 and 2015, there remain reasons for concern. Smoking continues to trend upward in low socioeconomic countries, which could increase the LC burden in low socioeconomic countries in the near future.	Larynx	To characterize health burden and determine the associated level of equality of laryngeal carcinoma (LC) burden at a global level.	N/A	Intermediate	2.44	12
Ranganathan (2020)	Global	DALY	Case-control	The burden of disease and economic impact	Breast	Quantify the global macroeconomic	Low- and middle-	Intermediate	12.97	2

				of breast cancer is intensifying in LMICs. Global efforts to improve access to surgical care for women with breast cancer could reduce mortality and mitigate the social and financial impact of this disease in LMICs.		burden of breast cancer to underscore the critical importance of improving access to oncologic surgical care internationally.	income countries			
Reis (2020)	Brazil	DALY	Cohort	Although there has been a reduction in the burden of cervical cancer in Brazil, the rates remain high, mainly among young women. The persistence of inequalities between regions of Brazil suggests the importance of socioeconomic determinants in the burden of this cancer.	Cervical	To describe the national and subnational burden of cervical cancer, based on the estimates of the 2017 Global Burden of Disease study.	N/A	Intermediate	2.05	1
Ren (2020)	Global	DALY	Cohort	The ASRI of oral cancer has increased slightly worldwide, while the ASRM and age-standardized DALY have remained stable. However, these characteristics vary	Oral	To use the Global Burden of Disease (GBD) 2017 results to estimate the incidence, mortality, and disability-adjusted life years (dalys) for oral cancer	Low, low-middle SDI countries	Intermediate	10.39	23

				between countries, suggesting that current prevention strategies should be reoriented, and much more targeted and specific strategies should be established in some countries to forestall the increase in oral cancer.		from 1990 to 2017.				
Safaeian (2021)	Global	DALY	Cohort	We found an increase in the burden of cervical cancer in the EMR as per the data on the absolute number of deaths and DALYs. Further, we found that the health care system has an increased number of cases to deal with, despite the decrease in the absolute number of deaths and DALYs. Cervical cancer is preventable if human papilloma vaccination is taken and early screening is performed.	Cervical	To assess the burden of cervical cancer mortality and disability-adjusted life years (dalys) in the Eastern Mediterranean Region (EMR) and globally between the years 2000 and 2017 by using a pooled data analysis approach.	N/A	High	4.11	0

Safiri (2020)	Global	DALY	Cohort	The findings from this study provide much-needed information for those in each country that are making health-related decisions about priority areas, resource allocation, and the effectiveness of prevention programmes. The results of our study also highlight the need for renewed efforts to reduce exposure to kidney cancer risk factors and to improve the prevention and the early detection of this disease.	Kidney	To present a status report on the incidence, mortality, and disability-adjusted life years (dalys) associated with kidney cancer in 195 countries from 1990 to 2017.	Low SDI, low-middle SDI	High	4.38	3
Safiri (2021)	Global	DALY	Cohort	This study found a decline in burden globally but with some countries having an increase. These results are crucial to set priorities for prevention and treatment of TBL cancer and would be beneficial for policymakers, government officials, clinicians, and researchers.	Trachea, Bronchus, Lung	To determine the global, regional, and national burdens of TBL cancer in 204 countries and territories from 1990 to 2019 by age, sex, and sociodemographic index.	Low-SDI	High	15.61	6

Sang (2019)	China	DALY	Case study	The contribution rate of vegetables is the largest, followed by cereals, milk products, fish and shrimp, and meat. Taking endogenous sources into consideration, the contribution rates of drinking water and food sources decrease to 0.08% and 0.69%. This study provides a scientific basis for making policy decisions on NDMA pollution management.	General	A health risk assessment was conducted on NDMA in drinking water and food across China and compared to the risk of endogenous NDMA.	N/A	Low	6.29	6
Sanyal (2014)	Canada	HALE	Prostate	To develop and validate a Markov Monte Carlo model for the contemporary clinical management of PCa, assess the disease's clinical burden, assess the disease's clinical burden, and assess the disease's clinical burden from diagnosis to end-of-life.	Cohort	Study findings indicated contemporary management strategies improved survival and quality of life in patients with PCa. This model could be used to compare long-term outcomes and life expectancy conferred of PCa management paradigms.	N/A	Intermediate	3.24	11
Shalmani (2015)	Iran	DALY	Cohort	DALYs due to HCV infection are	Liver	To present and critique the	N/A	High	1.09	12

				<p>increasing in Iran according to the GBD study 2010; however, the estimations of DALYs using the GBD study 2010 are mostly from model-based data and there are significant uncertainties for extrapolated data. In this regard, a comprehensive study such as the National and Subnational Burden of Diseases (NASBOD) study would be needed to estimate and calculate precisely prevalence and burden of HCV-related diseases at national and subnational levels.</p>		<p>burden of hepatitis C and its trend in Iran between 1990 and 2010 using the GBD study 2010.</p>				
Sharma (2021)	Global	DALY	Case-control	<p>With growing incidence, escalating dietary and behavioural risk factors and lower survival rates due to late-disease presentation in low- and medium-income countries of Asia, breast cancer has become</p>	Breast	<p>This study presents an up-to-date, comprehensive, and comparative examination of breast cancer's temporal patterns in females in Asia in the last three decades.</p>	Low-income countries	High	1.91	1

				a significant public health threat. Its rising burden calls for increasing breast cancer awareness, preventive measures, early-stage detection and cost-effective therapeutics in Asia.						
Shi (2015)	China	DALY	Cohort	There are indications that, along with economic development, YLD will play a more important role in estimation of burden of cancer in China; it suggests that China should consider introducing DALY into the estimation system as early as possible. It also suggests that research on quality of life and utility associated with the major cancers in China need to be systematically conducted to facilitate more accurate DALY estimation.	General	To review various data sources and conduct an extended estimation on the burden of cancer in China.	N/A	Intermediate	1.00	7

Shi (2020)	China	DALY	Cross-sectional	Annual disease burden was 19.0 person-years attributed to exposure of DBPs in swimming pool water in Shanghai. This study provides a paradigm and strategic reference of precise exposure assessments, risk assessments, and disease burden estimation of hazards in swimming pool water for other regions.	General	To determine the levels of trihalomethanes (thms) and haloacetic acids (haas) in 16 public indoor swimming pools in Shanghai, China.	N/A	High	10.59	7
Shih (2009)	Australia	DALY	Survey	This study demonstrates that a sustained modest investment in skin cancer control is likely to be an excellent value for money.	Skin	This study assesses the cost-effectiveness of a skin cancer prevention program (named SunSmart) since it was introduced, together with its potential cost-effectiveness as an upgraded and ongoing national program.	N/A	Intermediate	4.02	133
Shimada (2015)	Japan	DALY	Cohort	These results suggested that the ICRP detriment overestimate the weighting fraction of leukemia risk and underestimate	General	To estimate radiation cancer risk and compared this with the radiation detriment to discuss the	N/A	High	1.33	12

				the weighting fraction of breast and thyroid cancer. A big advantage over the ICRP detriment is that DALY can calculate the risk components for non-fatal diseases without the data of lethality. This study showed that DALY is a practical tool that can compare many types of diseases encountered in public health.		effectiveness of DALY.				
Shrestha (2021)	Nepal	DALY	Cohort	This study highlighted the burden of cancer in Nepal, contributing to a significant number of new cancer cases, deaths and DALY. A comprehensive approach including prevention, early diagnosis and treatment, and rehabilitation should be urgently taken to reduce the burden of cancer.	General	To understand the trend of a shift in incidence, prevalence, and mortality using standard parameters and correlate the findings with the status of prevalent risk factors in Nepal.	Low-income countries	High	3.24	0
Siddiqi (2015)	Global	DALY	Case study	In 2010, smokeless tobacco use led to 1.7 million DALYs lost and 62,283	General	Aimed to estimate the worldwide burden of disease attributable to	N/A	High	8.78	177

				deaths due to cancers of the mouth, pharynx, and esophagus.		SLT use, measured in terms of disability-adjusted life years (dalys) lost and number of deaths in 2010				
Silva (2018)	Brazil	DALY	Cohort	From 1990 to 2015, mortality due to breast cancer attributable to physical inactivity increased in Brazil (0.77%; 95%U.I.: 0.27–1.47) and decreased (–2.84%; 95%U.I.: –4.35 – –0.10) around the world. These findings support the promotion of physical activity in the Brazilian female population to prevent and manage breast cancer.	Breast	The aims of this study were as follows: to estimate the mortality and years of life lost, assessed by disability-adjusted life years (dalys), due to breast cancer attributable to physical inactivity in Brazilian women; to compare the estimates attributable to physical inactivity and other modifiable risk factors; and to analyze the temporal evolution of these estimates within Brazilian states over 25 years (1990–2015), compared with global estimates.	N/A	Low	4.38	20
Silva (2018)	Brazil	DALY	Case-control	Over 25 years, the Brazilian population showed	Colorectal	The aims of this study were to estimate all-cause	N/A	Low	3.24	16

				<p>more worrisome results than around the world. Actions to combat physical inactivity and greater cancer screening and treatment are urgent in the Brazilian states.</p>		<p>and cause-specific mortality and years of life lost, investigated by disability-adjusted life-years (DALYs), due to colorectal cancer attributable to physical inactivity in Brazil and the states; to analyze the temporal trend of these estimates over 25 years (1990–2015) compared with global estimates and according to the socioeconomic status of states of Brazil.</p>				
Soerjomataram (2012)	Global	DALY	Cross-sectional	<p>Worldwide, an estimated 169.3 million years of healthy life were lost because of cancer in 2008. Colorectal, lung, breast, and prostate cancers were the main contributors to total DALYs in most world regions and caused 18-50% of the total cancer burden. We estimated an additional burden of 25% from</p>	General	<p>Calculate disability-adjusted life-years (dalys) to estimate the global burden of cancer in 2008</p>	Low-income countries	High	79.32	680

				infection-related cancers (liver, stomach, and cervical) in sub-Saharan Africa, and 27% in eastern Asia. We noted substantial global differences in the cancer profile of DALYs by country and region; however, YLLs were the most important component of DALYs in all countries and for all cancers, and contributed to more than 90% of the total burden.						
Soerjomataram (2012)	Norway, Bulgaria, India, Uganda	DALY	Case-control	Our approach resulted in a series of variables that can be used to estimate country-specific DALYs, enabling global estimates of DALYs and international comparisons that support priorities in cancer control.	General	To provide an overview of methodological approaches to calculating sex-specific DALYs for 27 cancer types based on the modeling of indicators derived from numerous epidemiological histories for each of the common cancer sites.	Low-income countries	High	5.26	81
Soerjomataram (2012)	Netherlands	HLE	Colorectal	To assess health and functional status determinants	Cohort	Most CRC patients may expect no	Low SES	Low	2.3	34

				and estimate the proportion of remaining life that CRC survivors would spend in good health.		compromise on living a healthy life, underlining the importance of early detection. On the other hand, the high proportion of non-healthy years among stage IV CRC survivors confirms the importance of early detection and palliative care.				
Stanaway (2016)	Country not specified	DALY	Case-control	Between 1990 and 2013, global viral hepatitis deaths increased from 0.89 million (95% uncertainty interval [UI] 0.86-0.94) to 1.45 million (1.38-1.54); YLLs from 31.0 million (29.6-32.6) to 41.6 million (39.1-44.7); YLDs from 0.65 million (0.45-0.89) to 0.87 million (0.61-1.18); and DALYs from 31.7 million (30.2-33.3) to 42.5 million (39.9-45.6). In 2013, viral hepatitis was the seventh (95% UI seventh to	Liver	To estimate morbidity and mortality for acute viral hepatitis and cirrhosis, and liver cancer caused by viral hepatitis by age, sex, and country from 1990 to 2013.	Low-income countries	Intermediate	79.32	1159

				eighth) leading cause of death worldwide, compared with tenth (tenth to 12th) in 1990.						
Stone (2004)	Australia	DALY	Case-control	The findings of this study support the case for a national program directed at the 55 to 69-year-old age group with an extension to 70 to 74-year-olds if there are sufficient resources. The pilot tests recently announced in Australia provide an important opportunity to consider the age range for screening and the sources of uncertainty identified in the modeled evaluation to assist decisions on implementing a full national program.	Colorectal	To evaluate whether the introduction of a national, coordinated screening program using the fecal occult blood test represents 'value-for-money' from the perspective of the Australian Government as a third-party funder.	N/A	Intermediate	2.94	33
Strong (2008)	Global	DALY	Cohort	The rising burden of this disease, especially in low-income and middle-income countries, leads us to propose a global goal for cancer: a 2% reduction per	General	Projections for cancer mortality, incidence, and disease burden (as disability-adjusted life years) for 2005, 2015, and 2030.	Low-income and middle-income countries	High	3.03	32

				<p>annumover and above that which may happen as a result of current trends in prevention, case management and treatment.</p> <p>Achieving this goal would result in 7.7 million fewer deaths from cancer over the period from 2005 to 2015. More of these deaths will be averted in low-income and middle-income countries than in high-income countries. The scientific knowledge to achieve this goal already exists, and the target could be reached through effective cancer prevention strategies, including tobacco control, hepatitis B vaccination and prevention of cervical cancer.</p>						
Sun (2017)	China	DALY	Cohort	Esophageal cancer remains a public health issue in Feicheng County	Esophageal	To determine the long-term spatio-temporal trends in epidemiological	Rural populations	Intermediate	3.24	18

				with a high incidence, mortality, and disease burden. The incidence and burden have obvious spatial heterogeneity, and further studies should be conducted to identify geographical risk factors for precise local prevention and control measures.		characteristics and the burden of esophageal cancer, especially since the implementation of the national esophageal cancer screening program for early detection and treatment in 2005.				
Sun (2020)	China, Japan, South Korea	DALY	Cohort	China is in the cancer transition stage with a rising burden of colorectal, prostate, and breast cancers along with a heavy burden of lung and upper digestive tract cancers. Taking into consideration the effectiveness of screening and tobacco control in Japan and South Korea, improvement in the current tobacco control policy and cancer screening systems may contribute to	General	To summarize the cancer burden and trends in China, compare the differences among China, Japan, and South Korea and discuss possible causes of the disparities.	N/A	Intermediate	4.11	43

				cancer control in China.						
Tataru (2019)	Romania	DALY	Cohort	From the point of view of Romanian women, cervical cancer remains one of the major problems that need to be dealt with and access to optimal treatment proves to be extremely limited. Our study identifies the major clusters for genital cancers, observes the features of genital and cervical cancer, and determines the extent to which this cancer is a contributor to total Disability-Adjusted Life Year. We concluded that Romanian women in Arad Region have a considerable genital cancer burden, and the present health programs should be adapted for better action in order to control this disease problem. Comprehensive measures for cancer prevention	General	Identifies the major clusters for genital cancers, observes the features of genital and cervical cancer, and determines the extent to which cancer contributes to total Disability-Adjusted Life Year (DALY). S	N/A	Low	2.05	20

				and treatment should be implemented to reduce this disease burden. Future studies should be conducted over a long period of time, gathering continuous data to evaluate the economic impact and factors influencing the genital cancer burden in women.						
Tromme (2014)	Belgium	DALY	Cohort	The EQ-5D-5L questionnaire seems adequate to provide utilities and DWs in patients with melanoma. Lower HRQoL in female patients with melanoma is probably linked to lower HRQoL in the general population.	Melanoma	The main aim of the present study was to provide mean utilities and dws regarding patients with melanoma who were categorized into eight groups using a four-stage grouping based on the American Joint Committee on Cancer (AJCC) classification (7th edition, 2009) (0–IA, IB–II, III and IV), with each stage being subdivided into treatment and remission phases. The secondary aim of the study	N/A	Intermediate	9.30	32

						was to compare the results obtained with these three methods.				
Tromme (2016)	Belgium	DALY	Cohort	The total DALY for melanoma was consistent with the previous studies. Our results in terms of proportions of DALY/YLL/YLD per stage could be extrapolated to other high-income countries. YLDs generated by localized melanoma which will never metastasize, were inferior to YLLs resulting from stage IA melanomas. This result supports the hypothesis that efforts for an earlier diagnosis of melanoma are important.	Melanoma	To assess the burden of the different melanoma stages, deriving our results from the melanoma incidence in Belgium in the years 2009-2011.	N/A	Intermediate	9.16	23
Tsilidis (2016)	United States, country not specified	DALY	Cohort	DALYs lost from cancer were substantial in this large European sample of middle-aged and older adults. Even if the burden of disease because of cancer	General	To calculate dalys for cancer, overall and by cancer site, in a large and diverse population of middle-aged and elderly Europeans and estimate	N/A	High	13.51	29

				is predominantly caused by mortality, some cancers have sizeable consequences for disability. Smoking remained the predominant risk factor for total cancer burden.		population-attributable fractions for selected cancer risk factors (smoking, adiposity, alcohol, physical inactivity, and type II diabetes) based on the calculated dalys.				
Tsvetkova (2021)	Bulgaria	DALY	Case-control	This study demonstrates the significant social and economic burden of breast cancer as further, more comprehensive regional and national-based studies related to the total economic burden of breast cancer are required.	Breast	To evaluate the social and economic burden of treatment strategies for breast cancer in the North East region of Bulgaria.	N/A	Low	1.67	0
Tuvdendorj (2020)	Mongolia	DALY	Survey	A considerable health loss may be prevented with an effective anti-smoking policy. In Mongolia, more than one third of lung cancer-related DALY loss is attributable to active smoking, and thus is potentially preventable.	Lung	To quantify the population attributable fraction (PAF) of the lung cancer burden for smoking in Mongolia.	N/A	High	3.24	5

				Furthermore, a gender-specific tobacco control policy may be worthwhile because of the large gender difference in smoking exposure in Mongolia.						
Unar-Munguía (2017)	Mexico	DALY	Cohort	In Mexico, the burden of breast cancer due to suboptimal breastfeeding in women is high in terms of morbidity, premature mortality, and the economic costs for the health sector and society.	Breast	We estimated the lifetime economic and disease burden of breast cancer in Mexico if 95% of parous women breastfeed each child exclusively for six months and continue breastfeeding for over a year.	Parous women	Intermediate	2.30	10
Urban (2021)	Global	DALY	Cohort	The incidence, prevalence, and DALYs of skin cancers are increasing disproportionately among different demographic groups. As a worldwide epidemiological assessment, the GBD 2017 provides frequently updated measures of the skin cancer burden, which may	Skin	This study aims to contribute to the growing body of research addressing global trends in and the global prevalence of skin cancer.	Lower SDI	Intermediate	11.53	10

				help to direct resources and allocate funding to close the gap in global skin cancer disparities.						
Verdecchia (2001)	Italy	HLE	General	To present up-to-date estimates of cancer incidence and prevalence in Italy and projections through to 2000 of all cancers combined in one group, based on a statistical method that uses mortality data and the recently available information on cancer patients' survival.	Cohort	The declining and flat trends in age-adjusted cancer incidence and mortality rates since 1990 is the combined effect of survival improvements and cancer risk reduction for younger cohort groups, after 1940. These favorable trends contribute to the increase in healthy life expectancy, thus supporting the idea that we live longer and healthier	N/A	Intermediate	9.16	45
Vlajinac (2006)	Serbia	DALY	Cohort	DALYs per 1000 population were higher in Serbia than in the European region for all observed cancers except for stomach cancer. The participation of a burden caused by disability in the	General	To provide a comprehensive assessment of the burden of selected cancers in Serbia.	N/A	Low	1.62	39

				total burden of selected cancers was lower in Serbia than in other European countries, with the greatest differences in colorectal, breast, and cervical cancers.						
Vodicka (2021)	Ghana	DALY	Cohort	Projected average annual costs of the vaccine program ranged from \$11.2 to \$15.4 M, depending on strategy. This represents 11-15% of the estimated total immunization costs for 2022 (\$100,857,875 based on Ghana's comprehensive Multi-Year Plan for Immunization, 2020-2024).	Cervical	Project the cost-effectiveness and budget impact of adding HPV vaccination into Ghana's national immunization program.	Low-income countries	High	3.64	0
Vondeling (2018)	Netherlands	DALY	Cohort	This study provides a comprehensive assessment of the burden of breast cancer and subsequent trends over time in the Netherlands.	Breast	The aim of this study was to estimate the total economic and health-related burden of breast cancer in the Netherlands.	N/A	High	4.40	44
Wang (2014)	China	DALY	Cohort	Nationwide isolation of risk factors and the implementation of high-risk candidate	Hepatic, gastric, esophageal	Improvements in primary prevention of hepatic, gastric, esophageal	N/A	Intermediate	2.95	21

				screening have been useful approaches to control mortality due to hepatic, gastric, and esophageal cancers and must be continued to secure a future reduction in mortality.		cancers, particularly in the isolation of risk factors, have been a nationwide goal, and secondary prevention has also been advanced.				
Wang (2016)	China	DALY	Randomized controlled trial	Burden of disease caused by female breast cancer is becoming increasingly severe in China, especially in urban areas. It is necessary to strengthen the population-based prevention and control programs, and further studies may focus on DALY.	Breast	To analyze the data on the burden of female breast cancer in China.	?	Intermediate	0.60	25
Wang (2016)	China	DALY	Cohort	Liver cancer has been one of the serious diseases that cause a heavy disease burden in China. In recent years, the disease burden of liver cancer secondary to hepatitis B decreased, but the disease burden of liver cancer	Liver	To analyze the disease burden of liver cancer in the Chinese population in 1990 and 2013.	?	Intermediate	0.00	16

				secondary to hepatitis C significantly increased. Disease burden on liver cancer in the male population was significantly higher than that in females, showing that related targeted prevention and control measures should be imminently carried out.						
Wang (2016)	China	DALY	Cohort	The disease burden of stomach cancer in China remained at high level in 2013. Compared with those in 1990, the disease burden of stomach cancer decreased in 2013. The standardized mortality of stomach cancer in all the provinces had decreased but the provincial differences still existed.	Stomach	To analyze the national and provincial disease burden on stomach cancer in the Chinese population in 1990 and 2013.	?	Intermediate	0.00	6
Wang (2019)	Taiwan	DALY	Cohort	This study could help ACCEPTED MANUSCRIPT 3 farmers, processing plants, and government policymakers to	Liver	To estimate the efficacy of interventions in reducing the health impact of hepatocellular carcinoma caused	N/A	Intermediate	4.37	2

				alleviate aflatoxin contamination issues in the peanut production chain.		by aflatoxin contamination in peanuts				
Wang (2020)	China	DALY	Cohort	The trends of LC ASDRs and age-standardized DALY rates, and the PAFs of risk factors vary markedly by region, indicating a need for tailored measures to reduce LC burden and improve health equality. China's LC ASDRs are among the highest in the world, and the primary intervention priorities in China should be control of ambient particulate matter and tobacco usage.	Lung	To compare the trends in LC mortality and disability and the pafs of risk factors associated with LC mortality in China and other countries/regions by age, sex, and Socio-demographic Index (SDI) from 1990 to 2017 and provide useful information for LC control.	Low SDI, low-middle SDI	Intermediate	6.07	16
Wang (2021)	China	DALY	Cohort	China has a large and growing NCD burden attributable to a diet low in fiber. Greater priority in disease prevention and control should be given to male and older adults throughout China, particularly in	Colorectal	To estimate the burden of ischemic heart disease (IHD) and colorectal cancer (CRC) attributable to a diet low in fiber in China from 1990 to 2017.	N/A	Intermediate	4.45	0

				some western provinces.						
Wang (2021)	China	DALY	Cohort	The present study shows a substantial increase in the CRC burden attributable to a diet low in milk over the past three decades. Greater priority in CRC prevention should be given to males and the elderly population throughout China, particularly in less-developed provinces.	Colorectal	To estimate the temporal trends and geographical variation of CRC burden attributable to a diet low in milk in China.	N/A	Intermediate	2.68	1
Wang (2021)	China	DALY	Case-control	The present study shows a substantial increase in the CRC burden attributable to a diet low in milk over the past three decades. Greater priority in CRC prevention should be given to males and the elderly population throughout China, particularly in less-developed provinces.	Colorectal	To estimate the temporal trends and geographical variation of CRC burden attributable to a diet low in milk in China.	N/A	Intermediate	2.68	1
Webber-Foster (2014)	New Zealand	HALYs	Breast	Estimate the cost-effectiveness of adjuvant docetaxel and weekly	Cohort	Both weekly paclitaxel and docetaxel are likely to be cost	N/A	Intermediate	4.98	6

				paclitaxel versus each other, compared with standard 3-weekly paclitaxel, in women aged C25 years diagnosed with regional breast cancer.		effective compared with standard 3-weekly paclitaxel. Weekly paclitaxel was the optimal choice for WTP thresholds greater than \$NZ27,000 per HALY gained (PPP-adjusted \$US18,000). However, uncertainty remains around relative survival benefits, and weekly paclitaxel becomes cost-ineffective versus docetaxel if it is assumed that the two regimens have equal effectiveness. Reduced uncertainty about the relative survival benefits may improve decision-making for funding.				
Wen (2021)	Global	DALY	Cohort	The global burden of AYA cancers is substantial and disproportionately affect populations in limited resource settings. Capacity building for AYA	General	Report on the latest estimates of the burden of AYA cancers in 204 countries and territories between 1990 and 2019 in association with	Low-SDI	Intermediate	12.64	3

				cancers is essential in promoting equity and population health worldwide.		the socio-demographic index (SDI).				
Woo (2007)	Chinese city of Hong Kong	DALY	Cohort	Our findings have informed how best to achieve allocative efficiency in deploying scarce cancer care dollars but must be coupled with better integrated care planning, improved intersectoral coordination, increased resources, and stronger political will to realize the potential health and economic gains as demonstrated.	Cervical, breast, colorectal	To develop a policy-relevant generalized cost-effectiveness (CE) model of population-based cancer screening for Chinese women.	N/A	Intermediate	44.54	60
Wu (2004)	China	DALY	Case-control	Neonatal hepatitis B vaccination is a low-cost Input high-efficiency output strategy.	Liver	To study the cost-effectiveness, benefits, and effects of neonatal hepatitis B (hepatitis B) vaccination in Shanghai from 1992 to 2001 utility.	N/A	High	0.00	9
Wu (2020)	China	DALY	Cohort	In China, there has been a substantial increase in the burden of melanoma over the	Melanoma	We evaluated temporal trends and geographic variation in melanoma-	N/A	Intermediate	7.40	22

				last decade, representing an ongoing challenge in the Chinese population. More targeted strategies should be developed for the elderly population, especially for females, to reduce the melanoma burden throughout China, particularly the western provinces.		associated burden to narrow an important knowledge gap concerning the consequences of this disorder across time, provinces in China.				
Xiao (2015)	China	DALY	Case-control	HBV infection is a great medical challenge as well as a significant economic burden to Guangdong Province. The results suggest substantial health benefits could be gained by extending effective public health and clinical interventions to reduce HBV infection in Guangdong Province.	Liver	To estimate the disease burden and financial burden attributed to hepatitis B virus (HBV) infection in Guangdong Province.	N/A	High	3.39	14
Xie (2017)	China	DALY	Cohort	With the best economic evaluation results and requiring minimum medical	Cervical	To investigate the most suitable method for low-income areas in China, we	Low-income areas; rural areas in China	High	4.00	11

				resources, VIA/VILI is recommended for cervical cancer screening in poverty-stricken areas in China with a high incidence of cervical cancer and lack of medical resources.		conducted a health economic analysis comparing three methods: visual inspection with acetic acid and Lugol's iodine (VIA/VILI), Thin Prep cytology test (TCT), and human papillomavirus (HPV) test.				
Xu (2018)	China	DALY	Cross-sectional	The children's malignant tumors in Jiangxi Province that need key prevention and treatment are leukemia, brain cancer, and non-Hodgkin's lymphoma. Children under 5 years of age and boys are the key prevention and control targets. In 2015, the burden of disease had decreased compared with 2010.	General	Evaluate the disease burden of children's malignant tumors in Jiangxi Province in 2010 and 2015 and their changing trends and provide a basis for the prevention and control of children's malignant tumors.	N/A	High	0.00	2
Xu (2019)	China	DALY	Cohort	The incidence, mortality and disease burden of pancreatic cancer in China increased significantly from	Pancreas	To analyze the disease burden of pancreatic cancer in China in 1990 and 2017.	N/A	Intermediate	0.00	8

				1990 to 2017. Prevention and control measures should be strengthened to reduce the disease burden of pancreatic cancer.						
Xu (2021)	Global	DALY	Cohort	The burden of breast cancer in higher SDI quintiles had gone down while the burden was still on the rise in lower SDI quintiles. It is necessary to appeal to the public to decrease the exposure of the risk factors.	Breast	To update the burden and trends of breast cancer incidences, deaths, and disability-adjusted life-years (dalys) from 1990 to 2019, using the Global Burden of Disease 2019 study.	Low-SDI	Intermediate	6.24	0
Yang (2020)	China, Japan, South Korea	DALY	Cohort	The incident cases and deaths of EC in China, Japan, and South Korea increased from 1990 to 2017, whereas the ASIR, ASDR, and age standardized DALY rate declined. China had the greatest burden of EC among three countries. SDI and aging along with tobacco use, alcohol use, high BMI, and low-fruit	Esophageal	The current study aimed to provide an up-to-date overview of the burden, trends, and risk factors of EC in China from 1990 to 2017, compared with Japan and South Korea, and to discuss the potential reasons for the disparities. We investigated the factors for EC, including the socio-demographic	Low SDI, low-middle SDI	Intermediate	12.64	17

				diet were the main risk factors of death and DALYs and should be paid more attention.		index (SDI), age, sex, and various risk exposures, to contribute to strategies for health promotion.				
Yang (2021)	China	DALY	Cohort	The burden of oral cancer in China continues to increase continuously. More prevention, control and intervention measures should be taken, and increased attention paid to common risk factors is essential for the prevention of oral cancer.	Oral	This study systematically assesses the current state of oral cancer in China from 1990 to 2017, providing new information and perspectives for oral health researchers and public health policy makers.	N/A	Low	3.16	2
Yang (2021)	Global	DALY	Cohort	The number of ambient PM2.5-related lung cancer deaths and DALYs has largely increased because of the increase of exposure to PM2.5, population growth, and aging. Local governments should do economic activities under the consideration of public health, especially in high-burden areas.	Lung	Use the latest GBD 2019 dataset to quantify the lung cancer burden and the trend due to ambient PM2.5 by location, sex, and age, which will be guileful for strategy making on lung cancer prevention and control.	Low SDI, low-middle SDI	Intermediate	6.50	2

Yavari (2011)	Iran	DALY	Cohort	The relative high burden of esophageal cancer in Golestan Province compared to other parts of the country is justifiable due to the existence of the highest incidence rate in this province.	Esophageal	Aim to pave the way for scientific and effective assessments of this disease and determine an action plan for its containment.	N/A	Low	0.18	6
Yu (2021)	China	DALY	Cohort	Our study generally revealed favorable decreasing trends for total and etiologyspecific liver cancer in China from 1990 to 2019. Despite the overall decline in liver cancer due to heavy alcohol use and obesity from 1990 to 2019, there have been apparent upward trends since 2006. Planned population-wide interventions targeting heavy alcohol use and obesity may mitigate the increasing trends in liver cancer attributable to	Liver	To describe the temporal trends in the incidence, mortality, and days of total and etiology-specific liver cancer in China from 1990 to 2019.	N/A	Intermediate	2.77	0

				alcohol use and NASH.						
Yu (2021)	Global	DALY	Cohort	In conclusion, a substantial increase in counts of incidence, mortality and DALYs lost of pancreatic cancer in the EU-28 is projected over the next two decades, which indicates the need for future health policies and interventions.	Pancreas	Project the burden of pancreatic cancer overtime in the European Union (plus the United Kingdom), taking age, calendar year, and birth cohort effects into consideration.	N/A	Intermediate	7.40	8
Yuan (2021)	Global	DALY	Cohort	Given the high heterogeneity in lung cancer burden among different populations, decisionmakers should understand local epidemiological characteristics of lung cancer in detail to formulate effective policies. Stricter tobacco control and improvement in lung cancer screening and treatment are imperative.	Lung	To explore the lung cancer burden and related risk factors in groups of different sex, ages, and levels of the sociodemographic index (SDI) at global, regional, and national levels.	Low-SDI	Intermediate	3.03	1
Zehtab (2016)	Iran	DALY	Cohort	Although the screening intervention is more cost-effective	Breast	To analyze the cost-effectiveness of breast cancer screening using	Rural areas of Southeast Iran	Intermediate	2.51	10

				<p>than the alternative (no- screening) strategy, it seems that including breast cancer screening program in health insurance package may not be recommended as long as the target group has a low participation rate.</p>		<p>mammography in 35-69-year-old women in an Iranian setting.</p>				
Zelle (2012)	Ghana	DALY	Cohort	<p>Both CBE screening and MAR seem economically attractive interventions. Given the uncertainty about the effectiveness of these interventions, only their phased introduction, carefully monitored and evaluated, is warranted. Moreover, their implementation is only meaningful if the capacity of basic cancer diagnostic, referral and treatment and possibly palliative services is simultaneously improved.</p>	Breast	<p>This study systematically compares the costs and effects of breast cancer control interventions in Ghana to guide policymakers in their selection of interventions.</p>	?	Intermediate	2.62	84

Zhai (2020)	Global	DALY	Cohort	The incidence of PC has been increasing globally, whereas its mortality and DALYs have been decreasing. These trends are particularly significant in developed regions and vary across geographic regions. Adjustments to the medical strategy by governments and medical institutions are required.	Prostate	Examining the patterns of the epidemiology of PC to help policymakers to allocate the limited resources of the health care system accordingly.	N/A	Intermediate	6.07	26
Zhan (2021)	Global	DALY	Cohort	The burden estimate pattern of kidney cancer trends varies widely between genders and throughout the world. Low-middle and middle SDI quintile countries face the highest burden estimates, especially for males. Efforts to increase health care investment are needed in these countries.	Kidney	To report the results of the Global Burden of Disease 2017 study on global kidney cancer burden estimates grouped by gender, age, region, country or territory, and sociodemographic index (SDI) from 1990 to 2017.	Low SDI, low-middle SDI	Low	6.00	0
Zhang (2015)	China	PYLL	General	To investigate the incidence, mortality, and disease burden of	Case study	In conclusion, the cancer burden in 2006-2010 in China was	Rural	High	1.71	5

				cancer in China to provide a reference for cancer prevention and control.		substantial, particularly for men and residents of rural areas. Early detection and early treatment of tumors should be a priority. Prompt, accurate screening of malignant tumors will help alleviate the tumor burden in China. Additional means of reducing the cancer burden include timely intervention in individuals at risk, comprehensive health education programs for Chinese residents, and development of effective strategies for preventing and controlling cancer. These steps should be implemented in China in the future.				
Zhang (2018)	China	DALY		As the first to compare the cancer risks of arsenic and THMs to the public in DALYs in China, this study	Lung, skin	The main objective of this study is to estimate the cancer risks of low-level arsenic	N/A	Intermediate	11.24	24

				might be useful for potential strategies of risk control and management of hazardous agents in drinking water.		via drinking water in dalys with the disease endpoints of lung cancer and skin cancer. In addition, since dbps in drinking water, especially thms, pose a significant threat to people's health in China, the cancer risk of thms through multiple exposure routes was estimated and compared with that of arsenic in dalys based on a two-year sampling in Xi'an drinking water distribution system (DWDS).				
Zhang (2019)	Global	DALY	Cohort	EC incidence and prevalence rates are growing globally, whereas the death rate and DALYs decreased between 1990 and 2017. Greater efforts, particularly detailed prevention strategies for reducing obesity, should be performed to	Endometrial	Report the results of the Global Burden of Disease (GBD) 2017 study on primary EC incidence, prevalence, mortality, disability-adjusted life years (dalys), years of life lived with disability (yls), and years of life lost (ylls) for 195 countries	N/A	Intermediate	6.24	30

				reverse this phenomenon.		or territories from 1990 to 2017 and assess the association between these indicators of the disease burden and the SDI level.				
Zhang (2020)	China	DALY		The mortality burden had a considerably larger contribution (97.31%) to the total disease burden, and the 60–65-year age group exhibited the largest DALY lost. Skin cancer exhibited the largest burden of 2.15×10^{-5} ppy, followed by lung cancer (1.20×10^{-5} ppy). This study might be useful for potential strategies of risk control and management in XP drinking water.	Skin, Lung, Bladder, Liver	To estimate and compare the different cancer risks of low-level arsenic in drinking water in dalys based on the monitoring data of XP city in northwest China.	N/A	Low	2.27	6
Zhang (2021)	China	DALY	Cohort	In China, despite the fact that the rates of GC have decreased during the past three decades, the numbers of new GC cases and deaths increased and will continue	Gastric	In this study, using the latest data of the GBD study (2019) in China, we comprehensively evaluated the national disease burden of GC and its temporal trends	N/A	High	4.11	7

				to increase in the next 25 years. Additional strategies are needed to reduce the burden of GC, such as screening and early detection, novel treatments, and the prevention of risk factors.		in relation to age, sex, and risk factors; and also predicted the numbers and rates of GC incidence and mortality in the next 25 years.				
Zhang (2021)	Global	DALY	Case-control	The ASIR, ASDR and age-standardized DALY rate of biliary tract cancer have decreased at the global level. However, changes in rates vary among different countries and regions, suggesting it is more reasonable to adopt targeted and specific measures to decrease the occurrence of cancer.	Biliary tract	To report the rates and the trends of biliary tract cancer at the global level from 1990 to 2017 according to gender, age, and social-demographic index (SDI).	Low-SDI regions	Intermediate	2.98	0
Zhang (2021)	Global	DALY	Cohort	Slowly decreasing trends in cervical cancer were detected worldwide from 1990 to 2019. Cervical cancer remains a substantial health problem for women globally, requiring more	Cervical	To analyze trends in cervical cancer at the global, regional, and national levels from 1990 to 2019 to inform health service decision-making.	Low-SDI	High	4.00	8

				effective prevention and control strategies.						
Zhang (2021)	Global	DALY	Case-control	The global burden of NASH-associated liver cancer has increased significantly since 1990, with age, gender and geographic disparity. Public awareness of liver diseases due to NASH should be emphasized.	Liver	To comprehensively analyze the global, regional, and national burden of cirrhosis and liver cancer due to NASH between 1990 and 2017	Low-SDI	Intermediate	3.61	1
Zhang (2021)	Global	DALY	Cohort	Skin cancer remains a major global public health threat. Reducing morbidity and mortality strategies such as primary and secondary prevention should be reconsidered, especially in the most prevalent and unexpected increased regions, especially for those areas with the greatest proportions of their population over age 55.	Skin	Estimate the incidence, mortality, and dalys of global skin cancer in 2019 and the temporal trends from 1990 to 2019.	Low-SDI	Low	3.36	1
Zhou (2015)	United States	DALY	Cohort	Our study shows that although there	General	To determine the frequently found	Rural	Intermediate	3.24	34

				are much carcinogenic air toxins, only a few of them affect public health significantly at the national level in the United States, based on the frequency of occurrence of air toxics mixtures and cancer-related public health impacts. Future research is needed on their joint toxicity and cumulative health impacts.		carcinogenic air toxics or hazardous air pollutants (haps) combinations across the United States as well as to analyze the health impacts of developing cancer due to exposure to these haps.				
Zhou (2021)	Global	DALY	Cohort	Our study provides valuable information on patterns and trends of disease burden and risk factors attributable to ovarian cancer across age, socio-demographic index, region, and country, which may help improve the rational allocation of health resources as well as inform health policies.	Ovarian	To estimate the disease burden and risk factors attributable to ovarian cancer and epidemiological trends at global, regional, and national levels.	Low-SDI	Intermediate	3.02	0
Zhu (2017)	China	DALY	Case-control	It presents a steady increase in CRC in	Colorectal	This study presents the trends	Rural areas	Intermediate	2.94	113

				China over the past decade. It also reveals the domestic diversity of age, gender, and geography and finds the differences between China and developed countries, which may yield insights for national programs and policies.		of CRC in China over the past decade.				
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* DALY = Disability-adjusted life years; HALE = Health-adjusted life expectancy; HALYs = Health-adjusted life years; HLE = Healthy Life Expectancy; HeaLY = Healthy life years; IHI = Inequity-in-health; MRs= Mortality rates; PYLL= Potential years of life lost; QCI = Quality of Care Index; QALYs= Quality-Adjusted Life Years; YLL = Years of Life Lost; YPLL= Years of potential life lost

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