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Global, Regional, and National Burden of Heart Failure, 1990-2023

GBD 2023 Heart Failure Collaborators

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Global, regional, and national burden of heart failure, 1990–2023: a systematic analysis for the Global Burden of Disease Study 2023

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Key words: Heart failure, global burden of disease, GBD

Key Points

Question: What is the global burden of heart failure?

Findings: All-ages prevalence increased by 124.6% (95% UI 117.2-131.8) from 1990 to 2023, while age-standardized prevalence increased by 2.7% (-0.6-5.8) over the same period. Ischemic heart disease, hypertensive heart disease, and other cardiomyopathy were among the top three etiologies across age groups, but there was substantial variability in etiology by age group and location.

Meaning: These comprehensive estimates highlight the increase in heart failure burden due to population growth and aging and the need for prevention and treatment strategies specific to common etiologies of heart failure.

Abstract

Importance Heart failure (HF) is a common condition with substantial geographical variation in its prevalence and underlying etiologies. Consistent and comparable data on the burden of heart failure within populations are needed to inform health system priorities.

Objective To estimate the global burden of HF.

Design Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2023.

Setting 204 countries and territories from 1990 to 2023.

Participants Global population with prevalent HF

Exposure HF and underlying etiologies

Main Outcomes and Measures Estimates with 95% uncertainty intervals (UI) for the prevalence and years lived with disability (YLDs) for HF by age, sex, location, year, and underlying etiology.

Results Globally, there were 56.0 million (95% UI 49·9–62·2) estimated cases of HF in 2023. The estimated prevalence of HF generally increased with age for all locations. While ischemic heart disease and hypertensive heart disease were the two most common etiologies globally among older adults, there was substantial variation in etiological pattern by location and age. Congenital heart anomalies and rheumatic heart disease (RHD) were common etiologies in children and young adults, while the proportion of HF due to alcohol use peaked in middle adulthood. Location-specific estimates highlighted regions with higher burden of HF due to specific etiologies, including RHD (south Asia, east Asia, Oceania, southeast Asia, central sub-Saharan Africa, eastern sub-Saharan Africa, southern sub-Saharan Africa, and western sub-Saharan Africa), alcohol use (central Europe, eastern Europe, and the Caribbean), and Chagas disease (Andean Latin America and central Latin America).

Conclusions and relevance Heart failure is a significant global public health burden, and the impact is likely to increase as populations age. However, most HF etiologies can be prevented by interventions that reduce exposure to modifiable risk factors such as elevated blood pressure, excessive alcohol consumption, and tobacco use. Etiology- and location-specific estimates can provide necessary information for public health officials to determine how best to prioritize interventions to reduce HF disease burden.

Introduction

The global epidemiology of heart failure (HF) is complex with substantial geographical variation in its prevalence and underlying etiologies.[1] Access to medical therapies for conditions which can cause heart failure and for HF itself is limited in many countries.[2,3] Without these therapies, the prognosis of HF is extremely poor.[4] Costs associated with medical care for HF and lost productivity are high.[5–7] Consistent and comparable data on the burden of HF within populations are needed to support health system priority-setting and understand its contribution to the global burden of non-communicable diseases.

The Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) is a comprehensive, collaborative research study that quantifies the burden of 375 diseases and injuries in 204 countries and territories, with subnational estimates available for a subset of countries. GBD identifies all available population-representative health data, addresses systematic biases between data types, and produces consistent, comparable estimates using a set of statistical models. We used GBD methods to generate age-, sex-, location-, and etiology-specific estimates of HF disease burden from 1990 to 2023. Heart failure in GBD is modeled as an impairment, where each case is attributed to a single underlying etiology. This simplifying assumption allows for identifying etiologic patterns by location, time, and demographic characteristics. These patterns are crucial for public health policy and priority setting, but this approach does not address the common situation faced by clinicians who treat individuals with heart failure due to comorbid conditions resulting from exposure to multiple cardiometabolic risk factors.

This manuscript was produced as part of the GBD Collaborator Network and in accordance with the GBD Protocol.[8]

Methods

Study overview

This manuscript presents estimates of prevalence and years lived with disability (YLD) due to heart failure (HF). These estimates were produced as part of GBD 2023 for 204 countries and territories. Estimates are also produced at the subnational level for selected countries. All estimates are shared publicly in the GBD Results Tool (https://vizhub.healthdata.org/gbd-results/). Data sources used to produce these estimates are listed in the GBD 2023 Sources Tool (https://ghdx.healthdata.org/gbd-2023/sources); metadata and citations for the input data sources specific to this study are available by selecting "Nonfatal Health Outcomes" under Components and "Heart Failure" under Impairments. Our estimates of burden improved on those from previous GBD cycles by the inclusion of updated input data and estimates for population, predictive covariates used in models (including the Health Access and Quality Index), cause-specific mortality estimates used to generate etiologic assignments for HF and the role of these estimates and inputs on the nonfatal burden of HF. As such, GBD 2023 estimates supersede previous estimates for all years.

GBD 2023 complies with the Guidelines for Accurate and Transparent Health Estimates Reporting (GATHER) guidelines; the GATHER checklist for this study is available in the Supplementary Material.[9] The funders of this study had no role in study design, data collection, data analysis, data interpretation, or the writing of the report. The lead and senior authors had full access to the data in the study and final responsibility for the decision to submit for publication.

Heart failure estimation overview

Heart failure can be due to many underlying causes and is modeled as an impairment in GBD. Deaths coded to HF are reallocated to underlying causes (e.g. ischemic heart disease (IHD), hypertensive heart disease (HHD)) using standard GBD redistribution processes; estimates of overall HF mortality are not produced.[10] Estimates of HF prevalence of are generated in a multi-step process. First, we modelled the overall prevalence of HF. Second, we estimated the proportion of prevalence due to each of 32 GBD causes identified as etiological causes of heart failure (eTable 1). Finally, we combined these results to produce age-, sex-, location-, year-, and etiology-specific estimates of HF burden. Prevalence of heart failure to each etiology was then further divided into 4 levels of severity: 1) controlled, medically managed heart failure; 2) mild heart failure; 3) moderate heart failure; and 4) severe heart failure. The disability weight assigned to each severity was agnostic with regard to etiology. We thus present estimates of prevalence as the main measure if disease burden in this manuscript. A summary of the process follows; full details of all data processing steps and model settings can be found in the appendix.

Case definition

GBD follows the Universal Definition of Heart Failure, which describes HF as a clinical syndrome with signs and symptoms due to a structural and/or functional cardiac abnormality and corroborated by additional evidence including elevated natriuretic peptide levels and objective evidence of pulmonary or systemic congestion.[11] GBD estimates represent structural heart disease with current or previous symptoms of HF (ACC/AHA Stage C and D), but do not include cases with evidence of structural heart disease, abnormal cardiac function, or elevated natriuretic peptide levels who have not yet experienced clinical signs and symptoms (ACC/AHA Stage B).[12]

Overall prevalence

Estimates of overall prevalence of heart failure were generated via Disease Model—Bayesian meta-regression 2.1 (DisMod-MR, IHME, Seattle, Washington).[13] DisMod-MR is an epidemiological state-transition model that integrates data for disease incidence, prevalence, remission, and mortality, while enforcing consistency among these parameters. It uses a geographical cascade and covariate values to make estimates in locations where there are no data, and Bayesian priors to integrate expert knowledge.

We performed a systematic review to identify data for incidence, prevalence, and HF mortality from the scientific literature, using as our reference definition cases identified clinically using structured criteria such as the Framingham or European Society of Cardiology criteria. Results of this review and data sources have been previously published and are included in the appendix.[1] We also included administrative data from sources capturing utilization for HF care from 23 countries. Administrative data sources were adjusted by applying correction factors to account for readmission within one year, HF diagnostic codes in non-primary charting positions, and outpatient visits as necessary.[13] Data availability is shown in eFigure 1.

To address systematic bias for data sources that used alternate case definitions, we performed a network meta-analysis using the meta-regression—Bayesian, regularised, trimmed (MR-BRT) software.[13] We modelled the logit difference in prevalence between our reference case definition and any alternate definitions, including administrative health facility data, generating adjustment factors that are then applied to sources using alternate definitions. Uncertainty for the final estimates included both the uncertainty from the original source as well as uncertainty from the adjustment process. Data reported in low demographic detail, such as both sexes or all ages combined, were split into sex- and age-specific estimates.

Estimation of etiological proportions

The selection of etiological causes was based on a literature review, quantitative analysis of causes most commonly coded with HF in 93 location-years of death certificates and inpatient records, and expert opinion regarding diseases that lead to HF. Though hundreds of diseases cause heart failure, the 32 included in this analysis represent common, clinically relevant, and quantifiable entities that can be stably estimated, and includes an "other" category to ensure estimates are collectively exhaustive and mutually exclusive.

For four etiologies (Chagas disease, calcific aortic valvular disease [CAVD], degenerative mitral valve disease [DMVD], and pulmonary arterial hypertension [PAH]), we estimated the prevalence of heart failure due to each etiology directly as part of the prevalence estimation strategy for those diseases. To estimate the proportion of heart failure attributable to the remaining etiologies, we utilized the epidemiological relationship between prevalence, cause-specific mortality, and excess mortality, described in Equation 1.

Equation 1:

$$Proportion_{\,HF\ due\ to\ etiology} = \frac{Cause\ Specific\ Mortality\ Rate_{\,HF\ due\ to\ eetiology}}{Excess\ Mortality\ Rate_{\,HF\ due\ to\ eetiology}} \Big/ \sum HF_{All\ etiologies}$$

First, we estimated the fraction of deaths for each etiology that also involved heart failure (Equation 2).

Equation 2:

$$CSMR_{HF\ due\ to\ aetiology} = CSMR_{aetiology} * Proportion\ deaths\ with\ HF_{aetiology}$$

This fraction was a modelled quantity, informed by person-level vital registration data from the USA, Mexico, Brazil, Taiwan, and Colombia which contained information on all codes in the causal chain. From these sources, we calculated the fraction of underlying deaths from each etiology in which heart failure was coded in the causal chain. These data were modelled in MR-BRT to generate smoothed age- and sex-specific estimates of this proportion for each cause. For hypertensive heart disease, alcoholic cardiomyopathy, and other cardiomyopathy, we set the proportion to be 1, as all deaths coded to one of these causes are due to HF. We then multiplied these modelled estimates by the cause-specific mortality rate for each etiology.[10]

Next, we estimated the excess mortality rate (EMR) for HF due to each etiology using person-level administrative health data linked to death records. We identified patients with HF due to each etiology as individuals with a record of HF concurrent with or subsequent to a record of any of the included etiologies. EMR for heart failure due to each etiology was calculated by subtracting the background mortality rate from the mortality rate of persons with heart failure due to that etiology. We modelled this quantity in MR-BRT to generate smoothed age- and sex-specific estimates for each etiology. Due to small number of deaths in younger ages, we assumed equal EMR across etiologies for ages under 45.

We calculated the proportion of HF due to each etiology, scaled them to sum to one, and aggregated to seven broad etiological groupings: coronary artery disease, pressure overload of the left heart, pressure overload of the right heart, primary valve diseases, primary myocardial diseases, toxin-mediated cardiomyopathies, and stress cardiomyopathies. These proportions, along with data from published scientific literature, were used to inform DisMod-MR models for

these seven categories. An exception to this approach was made for sub-Saharan Africa, where we excluded the calculated proportion input, relying instead on published studies to determine the proportions of heart failure etiologies. This decision was based on the observation that etiological patterns described in this region differed significantly from what was estimated from the limited death data available. The estimates of the seven proportion models were scaled to sum to one, and the component etiologies within each proportion model were also scaled to sum to one.

Prevalence of etiology-specific heart failure

To generate final estimates of the prevalence of HF due to each etiology, we first accounted for the prevalence of HF due to etiologies estimated directly. As we did not identify studies of HF prevalence in locations where Chagas disease is common, we added the estimates of HF due to Chagas disease to the estimates of overall HF prevalence. We then subtracted the prevalence of heart failure due to CAVD, DMVD, and PAH from this combined estimate. The remaining prevalence of HF was split into etiology-specific estimates by multiplying the scaled proportions by the prevalence for each age group, sex, location, and year.

General statistical methods

We propagated uncertainty due to measurement error, data processing, and statistical modelling through the estimation process. Mean estimates represent the mean value across 250 draws from the estimate's distribution, with 95% uncertainty intervals (UIs) calculated as the 2.5 and 97.5 percentile values across the draws. To reduce computing power and time required for the estimation process, the number of draws was reduced from 500 in previous iterations to 250 for GBD 2023. Simulations confirmed that estimates and uncertainty were not impacted by this reduction.[13] All analyses were completed using Python versions 3.8.17 and 3.10.4 and R versions

3.5 and 4.2. The statistical code used in GBD 2023 is available by request (engage@healthdata.org).

Results

Overall heart failure prevalence

Globally, there were 24.9 million (95% UI 22.5–27.5) estimated cases of HF in 1990; by 2023, this had increased to 56.0 million (49.9–62.2) (Table 1). There were an estimated 5.33 million (3.67–7.55) YLDs due to HF in 2023. All-ages prevalence in 2023 was similar by sex, with 27.1 million (24.3–30.2) estimated cases among females and 28.9 million (25.8–32.1) estimated cases among males. Estimated age-standardized prevalence per 100,000 in 2023 was higher in males (718.6 [643.7–795.4]) than females (573.0 [513.0–634.2]).

Prevalence per capita increased with age for both sexes, with a small initial peak in early childhood before rising again sharply in adults beginning in the sixth decade of life (Figure 1a). Mean age-specific rates were slightly higher among males for all age groups, although there was overlap in uncertainty intervals. Globally, the number of HF cases increased from birth to the 70- to 74-year age group, after which declines in population resulted in a decrease in the number of cases for the remainder of the age range (Figure 1b). The shift to a female-predominant population in the oldest ages also resulted in larger number of female cases in those 80 and older. This pattern was largely consistent across GBD regions (eFigure 2, eTable 2).

Age-standardized HF prevalence varied by GBD region and sex (Figure 2), with substantial overlap in uncertainty. There was an approximately two-fold difference between the regions with lowest and highest prevalence values. For both sexes, the highest age-standardized estimates in 2023

were in high-income North America, followed by central Europe and Australasia (eTable 3). The regions with the lowest prevalence were high-income Asia Pacific, Oceania, and south Asia, although the ordering of these at the mean prevalence value differed between the sexes.

Within GBD regions, western Europe showed the greatest variation in age-standardized prevalence in 2023, comprising the national-level locations with both the highest and lowest mean prevalence values (Figure 3). France and Sweden had the highest age-standardized prevalence values per 100,000 of 1137.8 (95% UI 990.2–1287.4) and 841.1 (757.8–908.1), while Iceland and Greece had the lowest, with age-standardized prevalence values per 100,000 of 342.5 (296.4–399.1) and 366.9 (324.7–410.0), respectively. HF prevalence varied significantly within many countries, including Italy, Japan, Poland, the USA, Brazil, and the UK, with 1.4- to 1.7- fold differences between subnational locations.

Etiological patterns

Globally, for all ages in 2023, IHD, HHD, other cardiomyopathy, and chronic obstructive pulmonary disease (COPD) were the underlying etiologies for just over half of prevalent heart failure cases, representing 33.7% (95% UI 29.4–38.1), 23.8% (19.6–29.0), 7.9% (6.4–9.4), and 5.7% (4.3–7.3) of HF cases, respectively. The global etiological breakdown varied markedly by age, as shown in Figure 4. Global results aggregated to the seven major etiologic groupings are shown in eFigure 3. Age- and region-specific results are shown in eFigure 4. Aage-standardized comparisons by region are shown in eFigure 5 and eTable 4. Congenital heart anomalies were the predominant cause of HF in childhood with 2.70 million (2.11–3.38) prevalent cases in those under 15 years of age. Rheumatic heart disease was a leading etiology in young adulthood, accounting for more than 20% of global HF cases among those aged 20 to 29 years. Ischemic heart disease and HHD became the two

leading global causes of HF beginning in the third decade of life. While these two etiologies represented the majority of cases in adulthood, the age patterns of other causes are also important to understand. Heart failure due to alcohol use was more common in middle age, accounting for 3% to 4% of cases among those aged 35 to 54 for an overall total of 1.92 million (1.33–2.66) prevalent cases globally. Heart failure due to stroke subtypes increased with age beginning in early middle age. Intracerebral haemorrhage was the predominant subtype until the 75–79-year age group, when the increasing prevalence of ischemic stroke led to this becoming the more common subtype leading to heart failure. Among older adults (≥70 years of age), the three leading causes of heart failure were IHD (11.8 million [9.07–14.7] cases), HHD (8.35 million [5.95–11.1] cases), and COPD (2.35 million [1.71–3.21] cases).

Discussion

Globally, there were 56.0 million (95% UI 49.9–62.2) prevalent cases of HF with 5.33 million (3.67–7.55) YLDs in 2023. Our modeled estimates showed large disparities in HF prevalence both between locations and within countries. While heart failure prevalence generally increased with age, we observed a peak in early childhood, largely due to the impact of congenital heart anomalies globally and RHD in endemic locations. Ischemic heart disease and HHD were the most common etiologies in older adults, but we observed substantial variation in the prevalence of etiologies across age and location, highlighting potential opportunities for HF prevention. Many common etiologies of HF are due to modifiable risk factors, including high systolic blood pressure, fasting plasma glucose, tobacco and alcohol use, and environmental exposures; addressing these exposures will also reduce HF-associated disease burden. Interventions for etiologies such as congenital heart anomalies and non-rheumatic valve diseases can reduce the likelihood of progression to HF. However, these procedures are not widely available in many locations. HF due

to RHD can be averted by targeted use of antibiotics to prevent cardiac damage. These improved estimates of HF etiologies provide data to appropriately prioritize prevention efforts targeted at local drivers of HF.

Some locations, such as India, with large increases in exposure to metabolic risks also had estimated large increase in age-standardized HF prevalence. However other countries, such as Viet Nam, were estimated to have much smaller increases in age-standardized HF prevalence despite similar increases in exposure to metabolic risk factors at the population level. Countries with small increases in exposure to metabolic risk factors, such as Germany and Switzerland, were generally more consistent in showing smaller increases in age-standard HF prevalence. Investigation across countries into why HF trends appear to be diverging, especially where input data is limited, would be particularly useful in much the same way the Seven Countries and MONICA studies advanced our understanding of cardiovascular diseases in the mid-20th Century.[14,15]

Comparisons with other estimates

Several global cohort studies and registries of HF patients have been established in order to understand treatment patterns, underlying etiologies of HF, and outcomes of patients with HF. As in our analysis, these studies found that IHD, HHD, and idiopathic or other cardiomyopathies were the most common etiologies among the enrolled patients. These analyses also found geographical disparities in HF-related outcomes, with locations with lower access to health care having higher mortality rates. These findings support our use of the Healthcare Access and Quality Index as a covariate in our models, capturing the influence of health care on HF-related mortality. Our estimates are consistent with studies of HF burden that are more geographically limited and

reviews of the published literature, particularly their findings that the increasing burden of heart failure is being driven by population growth and aging.

Global public health policy and heart failure

Our results highlight the different etiologic patterns driving HF prevalence by age and location and can provide guidance for public health policies and interventions to prevent HF. Blood pressure lowering acts across several common heart failure etiologies, including IHD, HHD, and stroke. Low-cost or cost-saving strategies for blood pressure control already exist and can be implemented in communities without the need for extensive local health system infrastructure.[23] Alcohol-related cardiomyopathy is a major burden in many locations, while methamphetamine-related cardiomyopathy has become epidemic in some locations and is associated with a particularly severe form of heart failure.[24–26] Policies that reduce the use of tobacco, alcohol, and stimulant drugs will also reduce the burden of HF due to these causes.

Limitations

This study has several limitations. While we have conducted systematic reviews of the scientific literature to identify all available high-quality, population-representative estimates of HF burden, these efforts are limited by available reports. Additional data collection in under-represented locations would improve efforts to estimate HF burden. Administrative health facility data from resource-limited settings may also systematically under-code HF; our adjustments for these data may not completely eliminate this bias. The linked hospital-mortality data used to estimate HF-etiology-specific EMR values are currently from a single location in Italy. This may obscure geographical variation in HF-etiology-specific EMR and cause our location-specific etiology results to be biased towards patterns seen in high-income settings, thus under- or over-estimating the

353 proportion of HF due to each etiology in locations with different patterns of HF survival. Our
354 modeling process incorporates proportion data from the literature to help address this, and as
355 more data sources become available across locations, this analysis can be expanded. In addition,
356 as we utilize data from vital registration systems to generate etiologic proportions, under- or over-
357 coding for certain causes of death, such as atrial fibrillation, may impact the results of these
358 analyses. GBD currently does not generate estimates of HF by ejection fraction category;
359 incorporating this into future iterations would improve our assessment of disease burden.
360
361 *Conclusions*
362 Heart failure represents a significant global public health threat, which is likely to increase as
363 populations age and exposure to risk factors increases in many locations. While there are effective
364 medical therapies available for HF, their delivery is difficult outside of highly developed health-care
365 systems. Prevention efforts aimed at reducing underlying etiologies are an important component of
366 effective strategies to reduce heart failure disease burden and associated costs. Future research
367 should focus on data-limited settings to improve our understanding of the global epidemiology of
368 heart failure.
369

Tables and Figures

Figure 1a: Global per capita heart failure prevalence per 100,000 by sex and age group in 2023

Figure 1b: Global counts of prevalent heart failure cases by sex and age group in 2023

Figure 2: Age-standardized prevalence of heart failure per 100,000 by sex and GBD region in 2023

Figure 3: Age-standardized prevalence of heart failure per 100,000 in 2023

Figure 4: Global patterns of underlying etiologies of heart failure by age in 2023

Table 1: Counts of prevalent heart failure cases and age-standardized prevalence rates per 100 000 population in 1990 and 2023, and the corresponding percentage change values, overall and by Socio-demographic Index (SDI) quintiles, 21 GBD regions, and 204 countries and territories.

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Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Global	24,900 (22,500-27,500)	56,000 (49,900-62,200)	124.6 (117.2-131.8)	624.2 (559.4-691.2)	641.3 (573.9-708.6)	2.7 (-0.6-5.8)
Low SDI	2,440 (2,200-2,720)	6,030 (5,400-6,740)	147.4 (141.5-153.9)	534.5 (479.7-594.4)	561.8 (498.6-625.9)	5.1 (2.6-7.8)
Low-middle SDI	2,290 (2,070-2,510)	5,010 (4,480-5,540)	119.3 (112.6-128.4)	516.6 (466.1-566)	540.3 (482.8-599.1)	4.6 (1.4-7.5)
Middle SDI	2,110 (1,910-2,300)	4,970 (4,470-5,530)	135 (125.6-145.1)	590.6 (529-647.3)	607.7 (545.4-676)	2.9 (-1.2-6.5)
High-middle SDI	4,280 (3,840-4,700)	11,900 (10,500-13,300)	178 (163.3-192.7)	608.4 (547.2-670.5)	639 (567.5-713.6)	5 (1.1-8.8)
High SDI	13,800 (12,200-15,400)	28,100 (24,700-31,300)	103.4 (95.9-111.1)	672.6 (597.2-747.3)	694.1 (623.9-762.2)	3.2 (-0.6-6.8)
Central Asia	296 (258-335)	538 (473-612)	81.5 (74.2-89.8)	614.8 (529.6-711)	659.4 (578.6-751.5)	7.3 (2.6-12.6)
Armenia	17.2 (14.9-19.7)	34.4 (29.2-38.7)	100.2 (84.1-115.2)	662 (569.4-769.8)	728.6 (634.2-814.3)	10.1 (1.6-18)
Azerbaijan	31.3 (27.3-35.2)	62.5 (54-71.9)	99.8 (87-114.8)	614.5 (528.7-702.6)	656.9 (569.8-747.9)	6.9 (0.6-14.6)
Georgia	33.9 (28.4-39.4)	37.7 (32.4-43.8)	11.3 (0.4-24.9)	615 (529.7-710.2)	682.3 (595.1-779.9)	10.9 (1.4-23.2)
Kazakhstan	76.7 (65.4-87.3)	130 (112-150)	69.4 (57-84)	605.7 (517.4-702.4)	683 (586.6-782.7)	12.8 (4.7-22.4)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Kyrgyzstan	19.4 (16.6-22.3)	33.3 (29.3-37.6)	71.7 (61.4-81.7)	616.3 (522.5-725.7)	662.1 (572.4-761.5)	7.4 (-0.2-15.8)
Mongolia	7.43 (6.49-8.47)	13.9 (12.3-15.6)	86.8 (76-99.3)	576.3 (485.5-673.4)	602.5 (518.6-694.6)	4.5 (-2-10.7)
Tajikistan	20.1 (17.6-22.4)	37.8 (33.4-42.5)	87.9 (77.6-98.7)	629.5 (544.5-719.6)	620.5 (532.4-711.6)	-1.4 (-8.3-6.5)
Turkmenistan	13.5 (11.9-15.1)	26 (22.8-29.5)	93.4 (82.5-105.7)	611.4 (523-706.3)	640.3 (551.4-734.7)	4.7 (-2.7-11.5)
Uzbekistan	76.8 (66.3-87.6)	162 (142-186)	111.4 (97.8-126.5)	618.6 (526.7-725.3)	644.6 (559.5-750)	4.2 (-3.2-12.3)
Central Europe	985 (866-1,110)	1,560 (1,390-1,740)	58.2 (49.6-69)	735.8 (649.5-824.6)	769 (686.1-845.4)	4.5 (-0.4-11)
Albania	15.8 (13.9-17.9)	25.6 (21.1-29.9)	61.5 (47.3-74.6)	657.4 (572.3-751.4)	660.7 (567.2-760.1)	0.5 (-6.2-6.8)
Bosnia and Herzegovina	23.1 (20.2-26.1)	34.7 (29.8-40.7)	49.9 (37.5-61.6)	660.5 (580.6-744.5)	659.5 (575.4-750.6)	-0.2 (-6-6.2)
Bulgaria	66.2 (56.9-76.8)	82.6 (68.9-97.2)	24.9 (11.1-40.9)	617.3 (540.9-701.6)	617.5 (533.2-702.5)	0 (-8.6-10)
Croatia	31.2 (26.5-36.1)	35.7 (30.8-40.7)	14.2 (3.7-26.3)	570 (499.9-645.1)	483.5 (426.6-540.1)	-15.2 (-22.1--7.6)
Czechia	94.7 (78-114)	153 (128-180)	61.8 (45.7-79.1)	773.6 (653.8-907.2)	784.8 (680.5-897)	1.5 (-6.4-10.6)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Hungary	82.1 (69.6-94.7)	112 (95.9-130)	36.7 (26.8-48)	636.8 (548.6-722.1)	654.3 (575.8-740.2)	2.7 (-2.8-9.8)
Montenegro	3.6 (3.14-4.09)	6.37 (5.38-7.47)	76.7 (64.6-88.7)	693.1 (604.8-791)	663.3 (575.1-756.6)	-4.3 (-9.5-1.4)
North Macedonia	10.6 (9.24-12)	18 (15.5-20.9)	69.5 (57.9-85.6)	645.6 (565.6-729.4)	635.3 (555.7-719)	-1.6 (-7.2-5.2)
Poland	385 (337-431)	696 (628-770)	81 (68.1-97.3)	939.1 (830.6-1043.5)	1018.9 (933.7-1106.5)	8.5 (1.7-17.2)
Romania	157 (135-180)	211 (182-241)	35 (24.8-47.5)	629.9 (552.4-716.5)	626.1 (549.6-704.7)	-0.6 (-7.4-7.1)
Serbia	49.2 (43-56.1)	75 (64.6-86.5)	52.4 (41.6-63.3)	546.6 (482.6-620.4)	542.5 (475.8-607.2)	-0.8 (-6.9-5.9)
Slovakia	36.5 (30.8-42.4)	54.7 (46.6-64.2)	50 (37.3-67)	661.1 (565.4-765)	646.8 (564.8-741)	-2.2 (-9.1-7.3)
Slovenia	15.1 (13.1-17.2)	29.3 (25.3-33.5)	94 (79-110)	706.9 (618.6-799.2)	724.4 (640.4-812.4)	2.5 (-3.1-9.2)
Eastern Europe	1,520 (1,310-1,740)	2,050 (1,770-2,340)	34.8 (30.4-39.2)	619.1 (544.3-698.4)	647.9 (572.5-726.5)	4.6 (1.7-7.6)
Belarus	71.5 (61-84.6)	94.1 (76.7-114)	31.6 (21-42.5)	623.1 (531-727.3)	656.4 (553-774.7)	5.3 (-1.7-13.8)
Estonia	12 (10.1-14.2)	17.7 (15-20.8)	47.1 (28.4-69.8)	651.3 (561.8-757)	700.8 (607.2-806.9)	7.6 (-4-20.8)
Latvia	20.7 (17.4-24.7)	23.9 (20.1-28)	15.8 (5.4-29.8)	632.7 (536.5-742.9)	661.7 (577.1-751.8)	4.6 (-4-16.4)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Lithuania	26.5 (22.2-31.3)	34.6 (29-40.5)	30.5 (19.6-43.2)	642.6 (539.2-745.1)	664 (576.4-761)	3.3 (-4.2-12)
Republic of Moldova	24.3 (20.5-28.7)	35 (29.6-40.6)	44.1 (31.6-59)	605.8 (512.6-708.6)	646.7 (557-736.4)	6.8 (-2.1-17.2)
Russian Federation	968 (836-1,100)	1,420 (1,220-1,620)	46.6 (41.6-52)	613.4 (535-686.5)	650.1 (575.9-727.2)	6 (2.7-9.3)
Ukraine	395 (339-455)	422 (365-485)	6.8 (-0.2-13.7)	632 (552.2-716.2)	635.9 (557.9-717.1)	0.6 (-4.5-5.7)
Australasia	177 (150-211)	414 (365-460)	134.3 (111.5-163.4)	788.3 (682.1-927.1)	767.9 (685.5-844.8)	-2.6 (-11.2-7)
Australia	151 (128-181)	365 (322-406)	140.9 (116.2-173.5)	812.1 (696.6-963)	793.5 (706.7-875.1)	-2.3 (-11.4-8.4)
New Zealand	25.4 (21.9-29.5)	49.4 (43.4-56.7)	94.6 (77.8-113.6)	672.2 (583.7-768.3)	624.4 (556.4-696.7)	-7.1 (-14.5-0.5)
High-income Asia Pacific	829 (742-919)	1,870 (1,670-2,060)	125 (111.7-140.1)	478.6 (428.2-527.8)	471.9 (429.1-512)	-1.4 (-5.3-2.2)
Brunei Darussalam	0.706 (0.628-0.776)	1.67 (1.5-1.88)	137.2 (122-153.8)	450.2 (403.4-509)	448.8 (405.8-502.3)	-0.3 (-5.5-5.8)
Japan	663 (590-737)	1,400 (1,250-1,570)	111.9 (98.2-127.1)	472.2 (423-518.6)	454.7 (416-490.4)	-3.7 (-8.4-0.5)
Republic of Korea	155 (137-173)	421 (368-479)	171.6 (144.7-198.1)	516.8 (460.5-577.6)	533.3 (480.6-594.2)	3.2 (-3.3-9.8)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Singapore	11.2 (9.92-12.5)	39.9 (35-45.3)	255.4 (230-284.7)	513.3 (454.5-577.7)	523.1 (467-583.1)	1.9 (-2.9-7.9)
High-income North America	2,890 (2,520-3,210)	5,270 (4,700-5,800)	82.5 (72.8-94.3)	862.8 (765-948.3)	868.3 (794-938.7)	0.6 (-4.3-5.8)
Canada	277 (237-318)	617 (520-727)	122.6 (96.3-145.9)	893.8 (775.9-1012.8)	900.4 (779.4-1032)	0.7 (-8-9.4)
Greenland	0.25 (0.221-0.283)	0.422 (0.362-0.485)	68.6 (55.8-83)	742.6 (650.9-852.1)	756.7 (651.1-864.7)	1.9 (-4.1-9.1)
United States of America	2,610 (2,280-2,910)	4,650 (4,170-5,150)	78.3 (66.8-91.6)	859.7 (762.9-946.8)	864.3 (789.9-937.3)	0.5 (-5.6-7)
Southern Latin America	398 (337-481)	602 (532-684)	51.4 (37.4-66.9)	866.5 (739.5-1042.4)	684.1 (601-772.1)	-21 (-28.1--13.8)
Argentina	304 (252-377)	415 (363-473)	36.6 (23.8-52.6)	961.9 (803.6-1188.1)	715.3 (626-815.6)	-25.6 (-32.6--17.6)
Chile	71.8 (62.6-80.8)	156 (137-177)	117.6 (100.4-137.4)	674 (591.3-758.5)	633.6 (561.6-710.1)	-6 (-12.1-0.6)
Uruguay	21.9 (19.3-25)	30.8 (27-34.8)	40.7 (32.2-51.5)	600 (534.7-676.1)	584.4 (517.3-655.5)	-2.6 (-8-3.4)
Western Europe	3,630 (3,180-4,160)	6,220 (5,420-7,060)	71.1 (62.6-81)	680.7 (607.6-767.2)	693.3 (617.2-768.9)	1.9 (-1.7-5.9)
Andorra	0.326 (0.283-0.373)	0.873 (0.749-0.996)	167.8 (146.4-191.5)	610.8 (537.2-694)	581.7 (507.3-656.6)	-4.8 (-10.7-1.7)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Austria	108 (96.9-118)	123 (110-134)	14.2 (7-23.3)	953.8 (866.8-1027.6)	695.2 (635.2-745.9)	-27.1 (-31.5--21.6)
Belgium	70.3 (59.2-83.1)	110 (91.4-130)	55.9 (44.7-66.7)	507.5 (436.9-587.6)	501.5 (428.1-577.1)	-1.2 (-7.3-5)
Cyprus	3.71 (3.16-4.32)	8.2 (7.05-9.5)	121 (104.9-134.8)	470.3 (406.3-543)	473.8 (416.4-539.5)	0.8 (-5.7-6.9)
Denmark	36.6 (30.4-44)	58.4 (48.3-70.8)	59.2 (42.8-78.7)	503.2 (424.8-584.9)	522.4 (448.2-608.5)	3.8 (-4.3-14.5)
Finland	43.8 (37.5-50.3)	76.7 (63.2-90.1)	75.3 (51.3-101.5)	687.2 (600.8-772)	653.1 (565.4-741)	-5 (-15.5-6.7)
France	903 (783-1,040)	1,610 (1,360-1,870)	78.3 (66.8-92.4)	1099.3 (967.6-1247.7)	1137.8 (990.2-1287.4)	3.5 (-2.2-10.3)
Germany	772 (656-900)	1,260 (1,070-1,460)	62.9 (50.2-77.2)	670.5 (588.6-771.8)	697.4 (609.3-790.4)	4 (-1.9-10.6)
Greece	64.9 (55-76.6)	78.2 (67.1-89.7)	20.5 (6.2-37)	482.1 (416.8-554.3)	366.9 (324.7-410)	-23.9 (-30.9--15.1)
Iceland	0.981 (0.82-1.15)	1.86 (1.57-2.2)	89.8 (74.7-104.3)	354.5 (299.8-411.5)	342.5 (296.4-399.1)	-3.4 (-10.6-3)
Ireland	22.1 (18.6-26.4)	44.3 (37.1-51.9)	100.6 (85.4-116.6)	555.8 (474.9-652.2)	566.1 (487.8-648.6)	1.9 (-4.9-8.5)
Israel	25.1 (21-29.4)	67.2 (57.8-78.2)	167.4 (145.9-189.5)	517.1 (438.3-600.6)	523.3 (453.8-606.7)	1.2 (-5.8-8.3)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Italy	559 (492-625)	993 (892-1,100)	77.8 (63.4-91.6)	705 (628.9-770.6)	710.8 (648.1-772.1)	0.8 (-5.1-6.5)
Luxembourg	3.07 (2.63-3.64)	6 (5.2-6.95)	95.4 (82.4-112.2)	632 (548.1-724.9)	625.2 (552.9-712)	-1.1 (-6.7-5.8)
Malta	2.12 (1.83-2.49)	5.05 (4.22-5.94)	137.9 (120.9-157.5)	548.4 (474.9-633.1)	539.2 (464.1-618.5)	-1.7 (-7.7-5.3)
Monaco	0.354 (0.298-0.414)	0.515 (0.432-0.597)	45.4 (33.4-55.9)	566 (492.9-648.2)	562.5 (494.3-635.4)	-0.6 (-7.4-5.2)
Netherlands	98.7 (86.5-112)	189 (160-226)	91.9 (68.6-115.7)	534.4 (475.9-596.9)	569.1 (491.2-650.3)	6.5 (-4.5-17.2)
Norway	36.3 (31.2-41.8)	55.2 (47.4-63.1)	52.2 (45.9-58.4)	578.8 (509.3-652.5)	586.9 (516.9-656.2)	1.4 (-2.2-4.7)
Portugal	72.4 (60-85.8)	132 (111-154)	82.3 (67.3-100.4)	572.3 (485.5-665.4)	563.4 (491.2-639.8)	-1.5 (-8.3-6.5)
San Marino	0.158 (0.137-0.182)	0.392 (0.339-0.445)	148.4 (130-171.2)	573.3 (509.6-651.9)	546.8 (483.7-615.1)	-4.6 (-10.4-1.2)
Spain	287 (241-336)	563 (518-605)	96.3 (68.2-128.7)	574.4 (494.8-663.1)	595.4 (549.5-636.4)	3.7 (-9.1-17.8)
Sweden	84.7 (77.2-92.6)	169 (150-188)	99.6 (79.8-118.6)	709.2 (645.9-760.6)	841.1 (757.8-908.1)	18.6 (9.5-27)
Switzerland	47.9 (41-56.5)	84 (71.8-97.4)	75.3 (61.3-91.3)	499.1 (429.8-573.3)	499.4 (432.6-566.2)	0.1 (-6.3-7.6)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
United Kingdom	389 (329-450)	577 (499-665)	48.3 (41-55.2)	466.3 (403.6-526.3)	471 (413.6-528.7)	1 (-2.4-4.3)
Andean Latin America	192 (164-223)	427 (377-478)	122.2 (107.1-139.9)	802.1 (672-938.1)	671.4 (591.8-749.5)	-16.3 (-22.1--9.1)
Bolivia (Plurinational State of)	46.2 (36.3-59.1)	86.7 (70.8-107)	87.8 (74.5-107)	1239.7 (969.5-1591.9)	876.6 (725.7-1074.4)	-29.3 (-35.1--21.5)
Ecuador	44 (38.8-49.3)	113 (98.9-125)	156.5 (138.2-176.2)	695.3 (610.7-788.5)	637.6 (559.6-707)	-8.3 (-14.1--0.5)
Peru	102 (88.8-115)	227 (198-253)	123 (106.9-142.4)	731.3 (631.1-835.9)	630.8 (550.7-702.2)	-13.8 (-20.3--6.8)
Caribbean	167 (149-187)	320 (280-359)	91.2 (81.1-104.8)	579.5 (508.5-653.7)	594.2 (521.1-663.9)	2.5 (-2.8-9.6)
Antigua and Barbuda	0.37 (0.329-0.415)	0.681 (0.587-0.787)	84.1 (66.7-103.2)	669.6 (598.1-753.6)	664.4 (580.6-757.1)	-0.8 (-9.8-9)
Bahamas	1.06 (0.937-1.2)	2.44 (2.1-2.83)	130 (113.2-148.9)	614.7 (536.7-704.4)	645.9 (562.6-742.7)	5.1 (-2.1-13.2)
Barbados	1.83 (1.57-2.09)	3.07 (2.64-3.54)	67.4 (55.6-79.9)	613.3 (536.9-689.4)	651.7 (567.7-730)	6.3 (0-12.2)
Belize	0.719 (0.635-0.804)	1.95 (1.72-2.22)	171.7 (153.2-193.4)	589.5 (518.6-670.7)	631.5 (553.6-721.1)	7.1 (-0.9-15.7)
Bermuda	0.37 (0.324-0.426)	0.882 (0.761-1.01)	138.1 (116.2-164)	636.2 (557.5-724.3)	724.7 (643.2-811.9)	13.9 (6.3-24.6)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Cuba	63.3 (54-73)	112 (97.3-127)	77.7 (62.2-98.6)	599.6 (511.8-688.5)	648.3 (568.3-726.1)	8.1 (-0.7-19.1)
Dominica	0.459 (0.403-0.525)	0.587 (0.503-0.68)	27.7 (17.9-37.4)	597.5 (524.2-680.1)	629.9 (549.7-722.1)	5.4 (-2.6-12.6)
Dominican Republic	26.7 (23.8-29.6)	56.4 (49.1-63.4)	111.1 (96.3-129.4)	579.3 (506.3-649.2)	574.4 (502.7-648.7)	-0.8 (-8.1-6.9)
Grenada	0.498 (0.439-0.555)	0.88 (0.761-1.01)	76.5 (63.2-91.4)	573.2 (502.2-642.5)	600.8 (529.8-681.3)	4.8 (-2.7-12.1)
Guyana	2.57 (2.27-2.88)	3.82 (3.36-4.32)	48.7 (38.5-62)	556.5 (481.8-639.6)	562.9 (489.9-637.9)	1.1 (-6.8-9.6)
Haiti	16.8 (14.9-18.8)	37.2 (32.9-41.3)	120.6 (109.3-134.1)	463.2 (405.3-521.9)	476.7 (416-534.4)	2.9 (-4.3-9.9)
Jamaica	13.5 (12-15.4)	20.8 (18.1-23.7)	53.5 (42.5-64.5)	655.1 (575.6-753.9)	667 (584.3-760.7)	1.8 (-5.6-8.6)
Puerto Rico	24.9 (21.7-27.9)	50.9 (43-58.8)	104.2 (88.4-123.9)	656.1 (571.7-734.3)	683.8 (593.5-768.2)	4.2 (-2.5-11.4)
Saint Kitts and Nevis	0.239 (0.207-0.271)	0.305 (0.268-0.348)	27.7 (18.6-38.4)	558 (487-626.5)	609.6 (534.6-691.9)	9.2 (1.4-17.9)
Saint Lucia	0.659 (0.582-0.743)	1.39 (1.2-1.63)	111 (93.4-130.8)	606 (524.2-690.7)	626.8 (546.1-722)	3.4 (-3.7-12)
Saint Vincent and the Grenadines	0.524 (0.463-0.589)	0.956 (0.821-1.11)	82.4 (67.8-98.2)	596.4 (528.8-677.5)	637.6 (555.8-735.1)	6.9 (-0.5-15.1)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Suriname	1.59 (1.42-1.77)	3.59 (3.09-4.06)	125.9 (111.1-142.5)	569.8 (500.8-639.8)	593.3 (515-668.7)	4.1 (-2.3-11.2)
Trinidad and Tobago	5.05 (4.44-5.68)	10.2 (8.73-11.8)	101.3 (86.4-120.2)	572.6 (501.8-648.4)	603.6 (528.2-684.3)	5.4 (-1.7-12.6)
United States Virgin Islands	0.484 (0.424-0.542)	0.993 (0.839-1.14)	105.3 (81.9-127.5)	626.6 (549.6-706)	587 (508.7-662.1)	-6.3 (-13.1-2.3)
Central Latin America	666 (597-728)	1,580 (1,410-1,740)	138 (124.9-151.4)	653.8 (588.9-718.4)	624 (556-685.3)	-4.6 (-9.3-0)
Colombia	157 (137-180)	378 (333-426)	140.3 (121-162.4)	785 (674-909.9)	671.9 (591.4-752.4)	-14.4 (-22--6.2)
Costa Rica	14.4 (12.9-15.8)	36.6 (32.3-40.7)	155.1 (138.5-174)	679.2 (603.3-758.2)	655.5 (580.6-727.3)	-3.5 (-9.2-1.9)
El Salvador	21.9 (19.5-24.3)	34.5 (29.8-39.2)	57.6 (46-72.1)	611.7 (542-689.4)	572.5 (494.4-646.1)	-6.4 (-12.5-0)
Guatemala	32.7 (27.9-38.4)	73.2 (64.5-81.5)	123.8 (103.9-145.5)	754.3 (631.3-901.7)	604.3 (530.6-684)	-19.9 (-27.8--10.6)
Honduras	16.9 (15.2-18.7)	45.2 (39.9-50.3)	166.5 (147.9-184.5)	626.5 (554-707.8)	582.7 (510.5-650.5)	-7 (-13.1-0.1)
Mexico	302 (276-327)	758 (675-841)	150.6 (138.8-163.4)	549.8 (494.2-601.2)	587.8 (523.4-652.2)	6.9 (3.9-10.4)
Nicaragua	16 (14.1-18)	32.9 (29-36.5)	106 (90.7-121.8)	770.5 (661.6-889)	640.7 (564.4-714)	-16.8 (-23.8--9.1)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Panama	10.9 (9.64-12)	28.5 (25.3-31.8)	161.8 (144-180.2)	645.5 (574.5-722.6)	640.7 (570.2-712.8)	-0.8 (-6.5-5.2)
Venezuela (Bolivarian Republic of)	93.4 (78.8-110)	198 (171-224)	111.7 (95.2-131.1)	860.1 (718.5-1026.5)	719.9 (630-803.1)	-16.3 (-22.9--7.3)
Tropical Latin America	809 (696-931)	1,720 (1,550-1,910)	113.1 (96.9-129.3)	814 (697.6-935.2)	694.5 (622.8-763.6)	-14.7 (-21.5--8)
Brazil	787 (677-906)	1,690 (1,510-1,870)	114.5 (98.2-130.8)	813.5 (697.1-934.6)	695.2 (623.2-765.3)	-14.5 (-21.4--7.9)
Paraguay	21.8 (18.9-25.1)	36 (31.9-40.5)	65.2 (50.4-81.6)	831.6 (713.1-969.3)	664.1 (587.4-746.2)	-20.1 (-27.8--11.6)
North Africa and Middle East	1,430 (1,280-1,570)	3,490 (3,080-3,880)	144 (135.2-154.8)	706.6 (627.4-786)	714.6 (632.3-797.9)	1.1 (-2.5-5.4)
Afghanistan	44.2 (38.9-49.4)	109 (95.8-121)	146.2 (128.3-167.7)	623.9 (550.1-710.7)	606.8 (525-676.8)	-2.7 (-7.9-4.5)
Algeria	111 (99.4-124)	283 (250-319)	154 (138.9-172.9)	728 (639.2-813.8)	740.2 (653.5-830.1)	1.7 (-4.6-9.7)
Bahrain	1.93 (1.71-2.14)	8.26 (7.21-9.45)	329 (298.4-362.4)	732.8 (643.8-828)	765.3 (666.7-861.8)	4.4 (-1.2-11.1)
Egypt	210 (188-233)	481 (424-540)	128.5 (114.6-142.7)	647.1 (567.7-720.7)	657.5 (569.5-741.6)	1.6 (-5.1-8)
Iran (Islamic Republic of)	242 (219-266)	566 (506-636)	133.8 (121.8-147.9)	723.6 (652.2-800.4)	738.7 (658.9-823.3)	2.1 (-1.4-6)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Iraq	74.8 (66.5-82.8)	194 (169-215)	159.1 (143.2-173.4)	686.8 (599.8-771.7)	682 (593.1-766)	-0.7 (-6.3-5.4)
Jordan	15 (13.4-16.7)	68.1 (61.3-76.6)	352.9 (323.7-388.8)	737.4 (651.6-832.5)	748.4 (658.1-851.5)	1.5 (-5.1-8.3)
Kuwait	6.32 (5.61-6.99)	25.5 (22-29.1)	303.1 (272.4-343)	808.4 (707.2-906.4)	834 (728.9-944.4)	3.2 (-4.4-10.5)
Lebanon	18.2 (16-20.3)	44.2 (38.6-50)	143.5 (128.9-158.7)	747.3 (652-840.7)	735.7 (646.6-829.7)	-1.5 (-7.4-5.1)
Libya	18.2 (16.3-20)	41.6 (36.9-46.7)	128.6 (113.8-145.9)	743 (654-830.6)	742 (645.3-824.3)	-0.1 (-7-6.4)
Morocco	105 (92.9-118)	222 (192-251)	110.7 (97.5-125.7)	664.8 (581.9-752.2)	648.3 (562.3-731.5)	-2.5 (-8.5-3.5)
Oman	7.25 (6.53-7.88)	20.4 (18.1-22.7)	181.7 (162.4-201.7)	645 (578.4-715.4)	680 (592.5-767.2)	5.4 (-1.1-13.5)
Palestine	8.99 (8.03-9.92)	23.2 (20.6-25.9)	158 (143.9-171.4)	708.3 (627.5-799.8)	669.1 (584.6-757)	-5.5 (-12.4-0.7)
Qatar	1.66 (1.45-1.87)	12.9 (11-15)	675.9 (622-729.5)	774.9 (674.5-880.6)	792.5 (691.2-901.2)	2.3 (-3.9-8.4)
Saudi Arabia	58.5 (52.6-64.6)	128 (113-143)	118.6 (103-134.9)	677.7 (592.4-764.6)	715.3 (626.1-811.7)	5.5 (-1.2-12.4)
Sudan	73.4 (64.6-82.1)	162 (141-181)	120 (106.9-134.4)	666.4 (584.7-750)	654.5 (575-740.8)	-1.8 (-8.4-5.9)

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Syrian Arab Republic	48.9 (43.5-54.5)	102 (88.7-116)	107.9 (93.5-124.3)	695.3 (605.6-784.9)	709.7 (619.8-807.7)	2.1 (-4.6-7.9)
Tunisia	41 (35.9-46.1)	96.8 (83.9-110)	136.1 (120.7-153.4)	750.1 (655.1-846.8)	777.1 (681.2-877.7)	3.6 (-2.6-10.3)
Türkiye	289 (256-319)	709 (616-799)	145.8 (130.7-163.9)	773.2 (680.9-868.5)	776.4 (675.6-866.4)	0.4 (-5.1-6.7)
United Arab Emirates	7.28 (6.35-8.18)	63.5 (54.6-74)	771.7 (683.9-862.5)	875 (765-991.5)	931.2 (820.6-1053.1)	6.4 (-0.4-14.1)
Yemen	45.8 (40.7-51.1)	127 (112-143)	178.4 (163.6-193.3)	661.9 (580.6-736.1)	644.6 (555.5-722.3)	-2.6 (-8-3.6)
South Asia	3,080 (2,800-3,410)	7,460 (6,630-8,300)	142.3 (132.7-153.2)	459.1 (412.2-505.6)	493.5 (439.6-549.9)	7.5 (4.3-10.8)
Bangladesh	311 (274-347)	665 (586-745)	113.9 (101.6-126.5)	485.1 (423.7-544.4)	523.1 (458-590.9)	7.8 (2-14)
Bhutan	1.6 (1.4-1.79)	3.33 (2.92-3.7)	108 (92.1-123.1)	479.9 (416.4-537.1)	519 (456-578.6)	8.2 (2.1-13.9)
India	2,380 (2,170-2,630)	5,870 (5,210-6,580)	146.2 (134.4-158.9)	452.4 (406.6-497.5)	491.9 (438.6-548.8)	8.7 (5.5-12.1)
Nepal	49.8 (44.1-56)	127 (110-142)	154.5 (135.2-174.6)	445.8 (388.5-505.3)	499.6 (435.2-563.2)	12.1 (5.8-19.3)
Pakistan	331 (301-365)	793 (712-874)	139.4 (129.6-147.7)	477.8 (427-527.7)	495.9 (440.7-551.5)	3.8 (-0.7-7.8)

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East Asia	4,790 (4,210-5,420)	14,700 (12,700-16,900)	207.2 (187.6-222.8)	617 (542.4-694.7)	674.8 (590.6-763.2)	9.4 (4.2-13.9)
China	4,630 (4,070-5,240)	14,300 (12,300-16,400)	208.4 (188.5-224.4)	618.7 (544.6-696.5)	677 (591.5-766.2)	9.4 (4.1-14.1)
Democratic People's Republic of Korea	69.7 (59.6-79.4)	160 (136-186)	130 (111.7-147.8)	521.8 (447-595.6)	568.7 (487.4-652.6)	9 (1.2-16.9)
Taiwan	87.7 (74.9-100)	265 (225-310)	202.4 (180.7-225.1)	609.9 (521.9-700.2)	644.5 (558.4-740.6)	5.7 (-1.1-12.8)
Oceania	15.5 (13.7-17.3)	40.3 (35.3-45.2)	159.7 (149.7-170.6)	483.4 (418.6-549.1)	496.1 (427.3-568.1)	2.6 (-2.6-7.3)
American Samoa	0.143 (0.127-0.16)	0.224 (0.192-0.257)	55.9 (44.8-68.6)	535.7 (464.2-606.8)	551.8 (473.7-630.5)	3 (-3.7-10.2)
Cook Islands	0.0684 (0.0592-0.0777)	0.105 (0.0897-0.122)	53.7 (41.6-66.4)	561.6 (479.7-649.7)	593.1 (513-676.9)	5.6 (-2.2-14.1)
Fiji	1.98 (1.76-2.23)	3.6 (3.14-4.08)	82.2 (71.1-95.9)	500.4 (437.1-567.3)	508 (444.9-579.8)	1.5 (-4.9-8.3)
Guam	0.406 (0.361-0.453)	1.16 (0.972-1.35)	186.1 (152.6-221.6)	508.2 (445.5-578.2)	604.5 (516.7-696.6)	18.9 (5.4-31.9)
Kiribati	0.178 (0.156-0.201)	0.342 (0.3-0.388)	92 (82-103.2)	443.7 (383.3-508.8)	450.9 (386.1-525.8)	1.6 (-5.4-8.7)
Marshall Islands	0.108 (0.095-0.12)	0.117 (0.102-0.132)	8.8 (2.3-16.3)	482.2 (420.6-548.9)	498.4 (431-566.8)	3.4 (-3.3-10.4)

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Micronesia (Federated States of)	0.273 (0.238-0.308)	0.348 (0.3-0.395)	27.7 (20.2-35.8)	502.3 (432.1-573.8)	515.9 (449-590.3)	2.7 (-3.9-9.3)
Nauru	0.0186 (0.0164-0.0207)	0.0267 (0.0231-0.03)	43 (34.6-51.1)	471.9 (410.7-541.5)	476.1 (410-545.1)	0.9 (-6-7.8)
Niue	0.0128 (0.0112-0.0146)	0.012 (0.0103-0.014)	-6.4 (-14-2.5)	520.5 (453.8-591.4)	540.6 (467.9-617.7)	3.9 (-3.4-12.6)
Northern Mariana Islands	0.11 (0.0965-0.122)	0.213 (0.178-0.247)	94.5 (76.6-114.4)	558.6 (484-642.4)	576.3 (489.3-666.5)	3.2 (-3.7-10.4)
Palau	0.0497 (0.0421-0.0575)	0.0948 (0.0786-0.114)	90.9 (75-105.7)	512.5 (438.7-597.7)	528.5 (454.2-620.5)	3.1 (-4-10.2)
Papua New Guinea	8.94 (7.8-10)	27.5 (24.1-30.8)	207.2 (191.2-222.4)	467.6 (401.6-534.7)	485.5 (416-556.6)	3.8 (-2.4-10.3)
Samoa	0.597 (0.526-0.672)	0.995 (0.873-1.12)	66.8 (57.4-77.5)	554.1 (481.6-630)	561.3 (486.4-640.5)	1.3 (-4.8-8.6)
Solomon Islands	0.885 (0.78-0.995)	2.37 (2.05-2.67)	167.4 (154-183)	481.2 (418.7-557.1)	497.8 (429.4-567.3)	3.4 (-2.2-10.5)
Tokelau	0.00835 (0.0072-0.00951)	0.0102 (0.00877-0.0116)	22 (14.4-31.3)	535.8 (464.3-611.2)	565 (489.9-640.7)	5.4 (-0.6-12.6)
Tonga	0.334 (0.295-0.378)	0.459 (0.392-0.522)	37.3 (28.8-46.3)	534.3 (466.5-618)	539.4 (458.5-622.6)	1 (-6-7.4)
Tuvalu	0.0303 (0.0265-0.0345)	0.04 (0.0343-0.0449)	31.9 (23.9-41.4)	489.6 (424.9-562.5)	499 (428.4-564.6)	1.9 (-5.1-9.4)

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Vanuatu	0.409 (0.358-0.461)	1.03 (0.896-1.17)	151.7 (137.3-167.3)	487.4 (420.6-563.3)	498.1 (428.4-569.4)	2.2 (-3.7-9.2)
Southeast Asia	1,410 (1,260-1,550)	3,460 (3,060-3,840)	146.2 (135-157.1)	520.2 (463.7-577.6)	541.4 (476.8-601.5)	4.1 (0.6-7.4)
Cambodia	25.2 (22.2-27.9)	68.3 (60.4-77.8)	171.2 (153.8-191.4)	501.3 (437.7-564.1)	516.8 (451.3-586.9)	3.1 (-3.4-10.3)
Indonesia	524 (473-579)	1,200 (1,060-1,360)	129.4 (118.7-139.6)	512.4 (457.6-570.9)	534 (474.6-602.9)	4.2 (0.3-8.2)
Lao People's Democratic Republic	10.8 (9.65-12.1)	23.5 (20.5-26.2)	116.6 (104.2-130.3)	463.6 (408.6-523.8)	484.1 (419.4-547.1)	4.4 (-2.3-12.3)
Malaysia	56 (48.7-62.5)	165 (141-188)	193.8 (171.8-216.9)	536.4 (464.6-624.1)	551.5 (472.4-629.4)	2.8 (-3.5-10)
Maldives	0.609 (0.535-0.68)	1.86 (1.62-2.12)	205.9 (183.2-232.3)	557.9 (482.1-639.6)	585.2 (498.5-671.4)	4.9 (-1.1-12.1)
Mauritius	4.04 (3.55-4.54)	10.1 (8.55-11.6)	150.3 (130.7-169.6)	551.2 (479.9-625)	619.2 (530.3-700.6)	12.3 (5.7-20.4)
Myanmar	108 (95-123)	222 (193-249)	105.4 (92.6-120.5)	470.5 (409.9-533.2)	485 (415.4-544.4)	3.1 (-4.5-10.6)
Philippines	178 (161-197)	443 (395-496)	148.4 (138.4-158.4)	525.1 (469.4-582.7)	545.7 (486-615.5)	3.9 (0.3-7.5)
Seychelles	0.335 (0.293-0.379)	0.633 (0.546-0.733)	88.7 (75.4-103.6)	546.9 (476.5-624.4)	573.7 (497.7-661.9)	4.9 (-2.9-11.9)

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Sri Lanka	61.7 (55.3-68.5)	164 (142-190)	166.1 (145.4-186)	568.6 (500-646.6)	585.2 (513.7-671.6)	2.9 (-3.3-9.4)
Thailand	189 (163-215)	596 (495-703)	214.7 (181.5-242.8)	540.9 (460.8-630.1)	571 (482.6-659.5)	5.6 (-2.4-13.1)
Timor-Leste	1.58 (1.42-1.76)	4.7 (4.07-5.33)	197.2 (172.7-223.4)	483.9 (421.4-550.4)	488.9 (421.7-557.5)	1 (-6-8.3)
Viet Nam	243 (213-274)	554 (483-627)	128.3 (112-144.3)	534.1 (460.5-612.4)	539.3 (469.7-615.1)	1 (-6-7.7)
Central Sub-Saharan Africa	157 (138-180)	460 (403-530)	192.7 (182-204.8)	564.7 (490.5-657.9)	598.2 (507-688.7)	5.9 (1.7-11.3)
Angola	28.4 (24.8-32.2)	105 (90.6-123)	271.1 (251.7-290.2)	555.4 (477.6-642.9)	583.8 (498.4-679.2)	5.1 (-1-11)
Central African Republic	7.32 (6.39-8.35)	18.2 (16-20.9)	148.3 (135.5-160.4)	515.7 (441.7-603)	542.5 (459.9-631.8)	5.2 (-0.5-11.8)
Congo	7.38 (6.37-8.54)	19.9 (17.3-23)	169.5 (156-183.4)	561.2 (481.5-654.4)	600.4 (509.7-701.2)	7 (0.9-13.2)
Democratic Republic of the Congo	109 (95.4-125)	303 (267-350)	178.5 (166.2-192.6)	572 (493.9-669.9)	606.2 (512.5-696.2)	6 (0.8-12.1)
Equatorial Guinea	1.28 (1.11-1.46)	4.54 (3.94-5.27)	254.8 (231.5-280.6)	554.8 (473.5-646.5)	598.9 (507.5-696.4)	7.9 (1.7-16.7)
Gabon	3.75 (3.28-4.32)	8.38 (7.28-9.64)	123.4 (110.8-135.6)	579.5 (495.3-680.2)	620.2 (530.1-723.2)	7 (0.4-13.1)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Eastern Sub-Saharan Africa	664 (589-745)	1,710 (1,520-1,940)	157.7 (151.6-165.2)	668.6 (587.6-769)	703.8 (617.9-805.3)	5.3 (2.4-8.8)
Burundi	20.1 (17.7-23)	47.2 (41.2-54.2)	134.9 (121.7-149.2)	645.3 (551.1-755.2)	685.8 (589.1-801.6)	6.3 (-0.5-13.6)
Comoros	2.06 (1.81-2.34)	5.04 (4.4-5.79)	144.4 (128.9-160.3)	703.1 (606.7-816.4)	729.8 (624-845.2)	3.8 (-1.8-10.4)
Djibouti	1.28 (1.12-1.46)	5.91 (5.24-6.74)	361.2 (334.3-387.2)	707.4 (617-824.4)	731.9 (631.8-862.2)	3.5 (-2.8-9.2)
Eritrea	11.3 (9.76-12.9)	28.8 (25.2-33.3)	155.9 (140.1-173)	644.3 (556-756.5)	684.5 (586-805.8)	6.2 (-0.9-13.4)
Ethiopia	167 (151-188)	448 (399-499)	167.4 (159.6-177.1)	668.2 (588.6-756)	740.9 (648.6-835.7)	10.9 (7.2-15)
Kenya	86.1 (77.4-96.7)	231 (207-256)	168.1 (160.3-176.6)	720.7 (633.4-811.1)	739.9 (653.6-825.6)	2.7 (0.5-5.2)
Madagascar	42.4 (37-48.1)	111 (96.7-127)	160.8 (147.4-175.5)	685.1 (586.8-795.5)	709.3 (611-832.2)	3.5 (-2.3-9.8)
Malawi	31.7 (27.4-36.8)	70.8 (61.8-81.5)	123.6 (110.9-133.9)	635.4 (540-742.3)	667.2 (568.6-769.2)	5 (-1.3-10.7)
Mozambique	47.6 (41.8-54.2)	111 (97.7-128)	133.9 (120.3-148.1)	612.4 (533.5-714.9)	643.8 (554.4-748.2)	5.1 (-1.3-11.7)
Rwanda	25.7 (22.3-29.3)	56.8 (49.2-66)	121.5 (110.2-134)	656.9 (564.8-759.1)	697.3 (595.4-807.4)	6.1 (0.4-13)

Location	Prevalent HF cases, thousands, 1990 (95% UI)	Prevalent HF cases, thousands, 2023 (95% UI)	Percent change, prevalent HF cases, 1990 to 2023 (95% UI)	Age-standardized HF per 100,000, 1990 (95% UI)	Age-standardized HF per 100,000, 2023 (95% UI)	Percent change, age-standardized HF per 100,000 (95%UI)
Somalia	23.6 (20.8-27.1)	75.1 (65.8-86.8)	217.9 (202.7-235.7)	621.4 (532.5-726.9)	623.5 (536.6-722)	0.3 (-5.8-7)
South Sudan	20.9 (18.2-23.8)	35.4 (31-40.9)	69.6 (60.9-80.7)	676.3 (584.1-799.9)	701.2 (597-819.6)	3.7 (-2.9-10.8)
Uganda	59.3 (52-67.5)	158 (139-179)	166 (150-181.9)	662.7 (573.8-767.2)	692.8 (587.7-803.1)	4.5 (-2.3-11.2)
United Republic of Tanzania	99.7 (88.1-113)	260 (228-301)	161.2 (149-175)	687.5 (594.2-803.7)	691.5 (586.9-794.8)	0.6 (-4.8-6.4)
Zambia	24.2 (21.3-27.9)	64.9 (56.3-75.3)	168.1 (154.8-182)	654.6 (568-766.7)	689.6 (587.4-811.9)	5.3 (-1.5-11.7)
Southern Sub-Saharan Africa	196 (173-220)	416 (364-469)	112.7 (106.3-119)	592.2 (515.2-670.5)	611.7 (534.7-693.4)	3.3 (0.6-6.1)
Botswana	4.79 (4.22-5.43)	11.5 (9.95-13.3)	139.9 (125.5-160.3)	601.7 (511-692.7)	602.4 (507.2-702)	0.1 (-5.7-5.6)
Eswatini	2.51 (2.19-2.85)	4.89 (4.26-5.66)	94.8 (85.1-106.7)	576.8 (490.7-662.1)	591.5 (504.6-685.5)	2.5 (-2.8-8.9)
Lesotho	5.6 (4.84-6.45)	8.19 (7.08-9.5)	46.3 (38-53.9)	563.2 (477.1-654.6)	585.5 (499.4-684.7)	4 (-2.2-10)
Namibia	5.12 (4.47-5.86)	12.4 (10.9-14.1)	141.7 (127.3-154.6)	606.9 (521.7-694.1)	627.5 (533.7-723.5)	3.4 (-2.3-10)
South Africa	141 (126-158)	317 (278-358)	124.1 (117.2-131.2)	589.7 (515.9-665.1)	616.2 (538.7-695.2)	4.5 (1.8-7.3)

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Zimbabwe	36.2 (31.7-41.3)	62.4 (54.6-71)	72.3 (62.7-82.9)	606.6 (523.5-689.9)	599.3 (509.3-691.1)	-1.2 (-6.8-4.8)
Western Sub-Saharan Africa	647 (579-734)	1,710 (1,510-1,950)	163.8 (156.6-171)	598.6 (526.9-684.8)	625.6 (546.7-716)	4.5 (1.9-7.1)
Benin	16.4 (14.4-18.8)	47.6 (41.8-54)	190.2 (174.7-205.9)	581.1 (495.5-682.3)	611.3 (526-712.2)	5.2 (-1.3-12.2)
Burkina Faso	31.6 (27.9-36.1)	82.2 (71.8-93.8)	159.9 (148.6-172.3)	576.1 (496.7-674.8)	606.6 (524.9-698)	5.3 (-0.5-11.2)
Cabo Verde	1.9 (1.66-2.17)	3.08 (2.67-3.54)	62.1 (49.4-74.8)	679.3 (586.5-788.4)	708.2 (610.7-816.1)	4.3 (-2.3-11)
Cameroon	33.1 (29.3-37.7)	108 (95.6-126)	227.2 (209.3-244.7)	596.7 (507.7-694.9)	633 (544.3-734.2)	6.1 (-0.1-12.2)
Chad	20.1 (17.6-23)	55.1 (48.2-63.5)	174.1 (157.2-193.9)	567.9 (487.5-667)	603.8 (522.2-704)	6.3 (0.4-13.5)
Côte d'Ivoire	33.8 (30-38.9)	105 (92-121)	210.4 (196.2-227.6)	591.5 (506.9-684.3)	620.2 (534.3-724.2)	4.9 (-1.3-11.5)
Gambia	3.18 (2.82-3.61)	9.42 (8.35-10.8)	196.1 (183.3-213.9)	607.5 (524.9-701.1)	635.8 (543.9-738.6)	4.6 (-0.6-10.8)
Ghana	49.3 (43.4-56.3)	127 (112-145)	157.8 (142.9-175.9)	598.3 (525.5-687.7)	616.2 (527.3-717.3)	3 (-3.6-10.8)
Guinea	22.3 (19.6-25.6)	47.8 (41.8-54.7)	114.5 (103.2-126.9)	575.9 (492.2-682.2)	601 (518.2-704.6)	4.4 (-0.9-10.2)

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Guinea-Bissau	3.18 (2.8-3.66)	6.47 (5.7-7.32)	103.7 (92.5-115.3)	557.9 (473.9-653.3)	589.7 (505-677.7)	5.7 (-0.5-12.3)
Liberia	9.02 (8-10.4)	19 (16.8-21.9)	110.5 (101.6-123.2)	595.1 (515.2-699.9)	632.4 (547.8-735.4)	6.3 (0.2-12.3)
Mali	26.7 (23.6-31.1)	75.2 (65.9-86.1)	181 (165.7-194.7)	556.1 (478.9-648.7)	592.7 (511.7-687.4)	6.6 (0.4-12.2)
Mauritania	8.02 (7.1-9.07)	18.7 (16.4-21.1)	132.8 (121-146.4)	633 (546.1-724.1)	672.1 (585.6-773.9)	6.2 (-0.2-12.8)
Niger	21.8 (19.1-25.1)	74.2 (64.6-85.2)	240.7 (222.7-259.7)	574 (491.3-672.4)	603.8 (519.5-716.8)	5.2 (-1.2-11.6)
Nigeria	317 (283-354)	802 (717-907)	153.5 (146.9-161.3)	612.7 (538.5-688.8)	640.3 (562.8-721.9)	4.5 (2.3-6.6)
Sao Tome and Principe	0.525 (0.467-0.601)	0.917 (0.817-1.05)	74.5 (65.1-83.2)	631.5 (547.7-732)	653.7 (561.6-759.8)	3.5 (-2.2-8.9)
Senegal	26 (23.1-29.5)	69.9 (61.7-80.3)	168.8 (157.5-181.8)	601 (523.2-693.7)	626.8 (542.7-721)	4.3 (-0.9-10.4)
Sierra Leone	13.4 (11.7-15.4)	25.4 (22.4-29.5)	89.4 (79.2-100.4)	553.2 (478.2-646.9)	588.4 (508.6-676)	6.4 (1.5-12.4)
Togo	10.6 (9.32-12.1)	30.6 (26.9-34.9)	189.2 (171.7-204.7)	586.6 (511-681.7)	616.5 (527.9-705.1)	5.1 (-1.6-11.6)

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