

Projecting the clinical burden of chronic kidney disease at the patient level (*Inside CKD*): a microsimulation modelling study

Supplementary material

Authors

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Figure S1a. Prevalence of diagnosed CKD cases per 100 000 of each population, by CKD stage in 2022

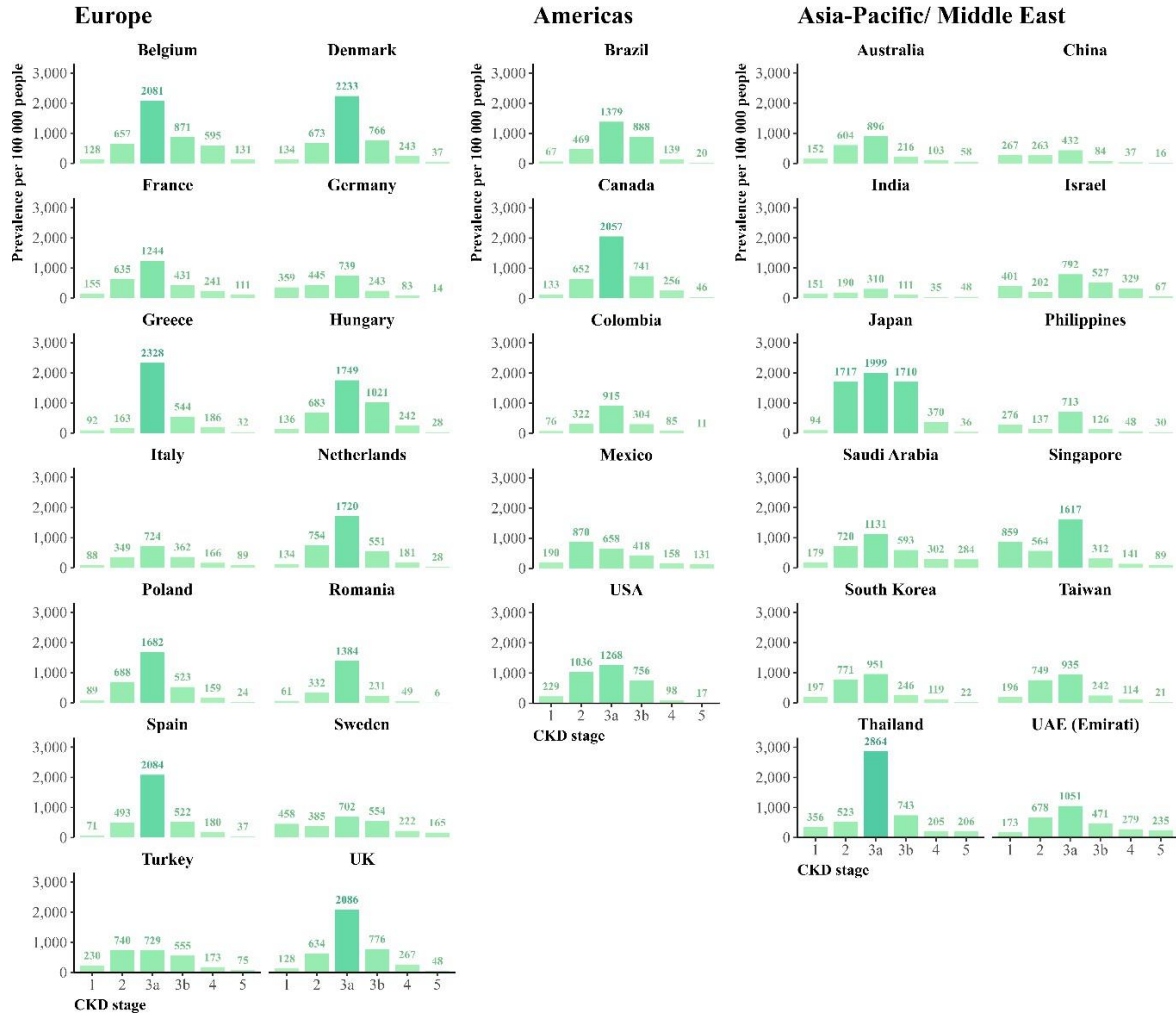
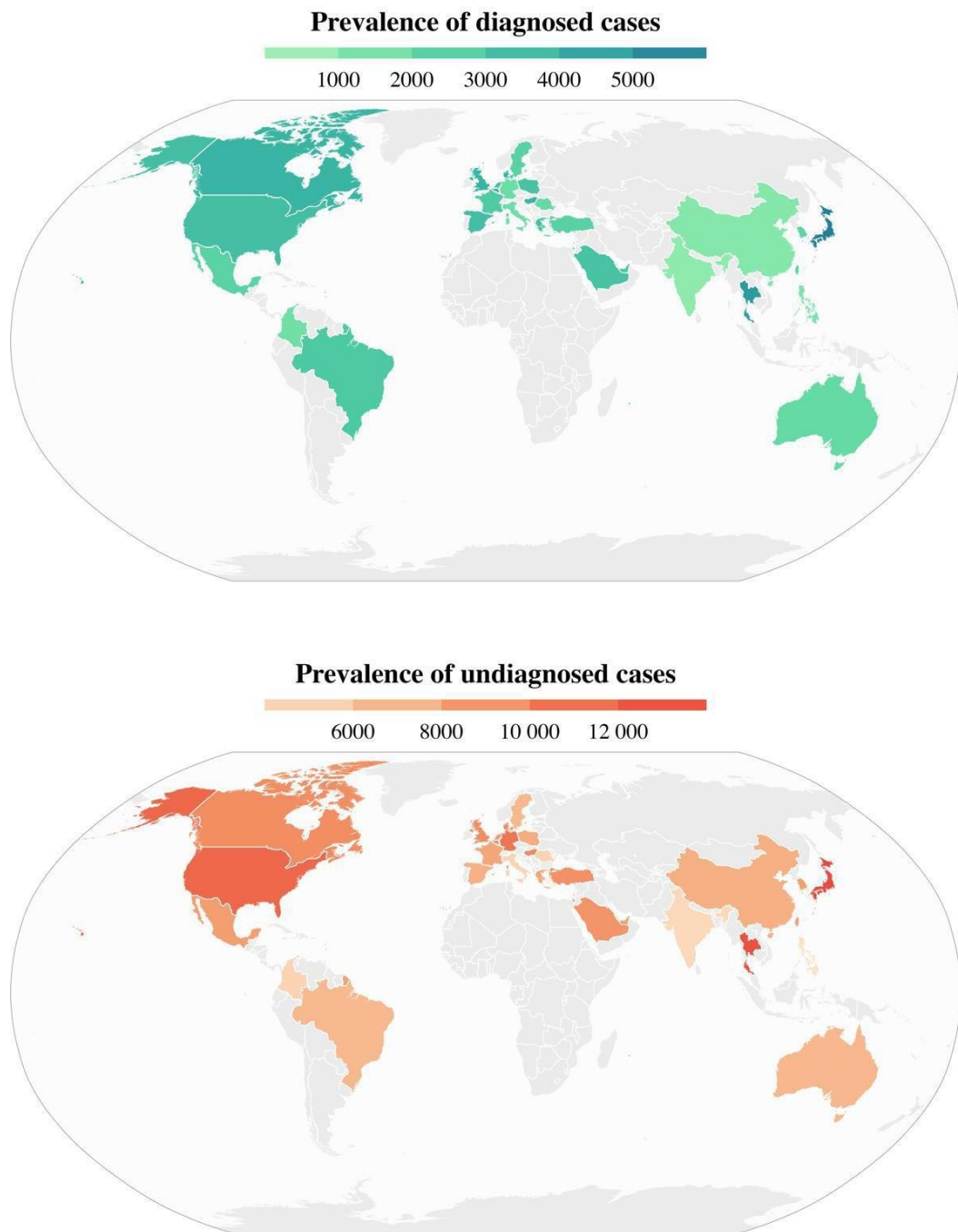
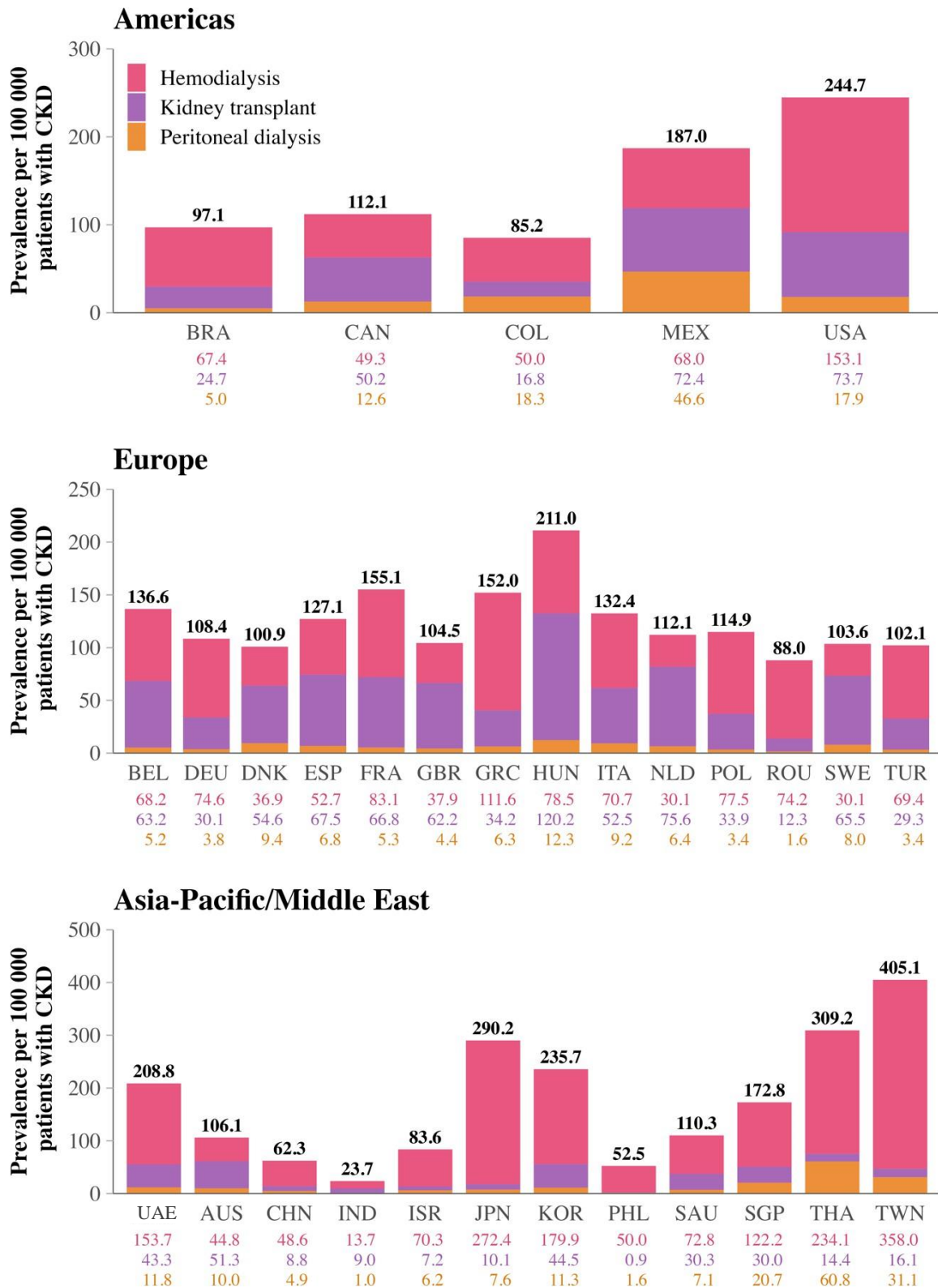


Figure S1b. Projected prevalence of diagnosed and undiagnosed cases of CKD at baseline (2022) per 100 000 of each population



CKD=chronic kidney disease. Notes: The UAE has a large and diverse Expatriate population with a different CKD profile; only the Emirati population has been provided here.

Figure S2. Prevalence of kidney replacement therapy by modality in 2022



Notes: The UAE has a large and diverse Expatriate population with a different CKD profile; only the Emirati population has been shown here. Individual values have been rounded to one decimal place. Slight discrepancies may occur between the total sum reported as a result. CKD=chronic kidney disease.

Supplementary tables

Table S1: The Inside CKD Scientific Steering Committee

Region	Key external expert	Affiliation
Australia	Prof. Steven Chadban	Royal Prince Alfred Hospital and University of Sydney, Camperdown, Australia
Belgium	Prof. Michel Jadoul	Cliniques Universitaires Saint-Luc, Université catholique de Louvain, Brussels, Belgium
Brazil	Prof. Marcelo Costa Batista	Hospital Israelita Albert Einstein, São Paulo, Brazil
Canada	Dr Navdeep Tangri	University of Manitoba, Winnipeg, Canada
China	Prof. Guisen Li	Sichuan Academy of Medical Sciences and Sichuan Provincial People's Hospital, Chengdu, China
Colombia	Prof. José Javier Arango Álvarez	Universidad del Quindío, Quindío, Colombia
Denmark	Prof. Christian Fynbo Christiansen	Aarhus University and Aarhus University Hospital, Aarhus, Denmark
France	Prof. Jean-Michel Halimi	Service de néphrologie-HTA, dialyses et transplantation rénale, CHRU de Tours, Tours, France
Germany	Prof. Kai-Uwe Eckardt	Charité Universitätsmedizin Berlin, Berlin, Germany
Greece	Dr Panos Stafylas	HealThink, Thessaloniki, Greece
Hungary	Prof. István Wittmann, Dr Boglarka Laczy	University of Pécs, Pécs, Hungary
India	Prof. Vivekanand Jha	The George Institute for Global Health India, New Delhi, India
Israel	Prof. Avraham Karasik	Maccabi Institute for Research and Innovation, Tel Aviv, Israel
Israel	Dr Gil Chernin	Kaplan Medical Center, Faculty of Medicine, Hebrew University of Jerusalem, Jerusalem, Israel
Italy	Prof. Francesco Saverio Mennini	Economic Evaluation and HTA-CEIS, Department of Economics and Finance, Faculty of Economics, University of Rome "Tor Vergata", Rome, Italy
Italy	Prof. Luca De Nicola	Department of Advanced Medical and Surgical Sciences, University of Campania Luigi Vanvitelli, Naples, Italy
Japan	Prof. Eiichiro Kanda	Kawasaki Medical School, Okayama, Japan
Mexico	Prof. Ricardo Correa-Rotter	Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán Mexico City, Mexico
Netherlands	Dr Ernst C Hagen	Meander Medical Centre, Amersfoort, Netherlands
Philippines, Singapore, and Thailand	Assoc. Prof. Jason Choo Chon Jun	Singapore General Hospital, Singapore
Poland	Prof. Michał Nowicki	Warsaw University of Technology, Warsaw, Poland
Romania	Prof. Dr Ismail Gener	Fundeni Institute, Bucharest, Romania

Saudi Arabia	Prof. Saeed M. G. Al-Ghamdi	King Abdulaziz University Hospital and King Faisal Specialist Hospital and Research Centre, Jeddah, Saudi Arabia
South Korea	Prof. Kook-Hwan Oh	Seoul National University College of Medicine, Seoul, South Korea
Spain	Prof. Juan Francisco Navarro-González	Research Unit and Nephrology Service, University Hospital Nuestra Señora de Candelaria, Santa Cruz de Tenerife, Spain
Sweden	Prof. Johan Åmlöv	Department of Neurobiology, Care Sciences and Society, Division of Family Medicine and Primary Care, Karolinska Institute, Stockholm, Sweden
Taiwan	Prof. Mai-Szu Wu	Department of Internal Medicine, School of Medicine, College of Medicine, Taipei Medical University, Taipei City, Taiwan Taipei Medical University Research Center of Urology and Kidney, Taipei City, Taiwan Taipei Medical University Shuang Ho Hospital, New Taipei City, Taiwan
Türkiye	Prof. Mustafa Arıcı	Division of Nephrology, Department of Internal Medicine, Hacettepe University, Ankara, Türkiye
UAE	Prof. Stephen G Holt	SEHA Kidney Care, Abu Dhabi, UAE
UK	Dr Albert Power	North Bristol NHS Trust, Southmead Hospital, Bristol, UK
USA	Prof. Glenn Chertow	Stanford University School of Medicine, Stanford, CA, USA
USA	Prof. Jay Wish	Indiana University School of Medicine, Indianapolis, IN, USA

CEIS=Centre for Economic and International Studies. CHRU=Centre Hospitalier Régional Universitaire.
CKD=chronic kidney disease. HTA=health technology assessment. NHS=National Health Service.
SEHA=Abu Dhabi Health Services Company.

Table S2: Disease burden data inputs

Parameter	Reference	Proxy country	Definitions
Australia			
eGFR	Australian Health Survey 2011–12 [1]	-	Distribution of eGFR and albuminuria in individuals aged ≥ 18 (cohort of 17 042) with each stage of CKD
Albuminuria			
KRT parameters			
KRT initiation threshold	Prof. Steven Chadban, personal communication	-	
Chance of being treated	Sparke et al., 2013 [2]	-	
Peritoneal dialysis	ANZDATA 43rd Annual Report, 2020 [3]	-	Incidence and prevalence of patients receiving KRT who are undergoing peritoneal dialysis and haemodialysis
Haemodialysis			Prevalence of KRT by year
Transplantation			Transplantation failure per year
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Categorized by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	British Heart Foundation, 2020 [5]	UK	Incidence
	Calculated from Barendregt et al., 2003 [6]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Australian Bureau of Statistics, 2018 [8]	-	Prevalence (incidence calculated)
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Stroke Foundation and Deloitte Access Economics, 2020 [9]	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
Belgium			
eGFR	HSE, 2016 [4]	UK	eGFR by age category, disaggregated based on [4]
	Van Pottelbergh et al., 2012 [15]	-	

Albuminuria	HSE, 2016 [4]	UK	AER by age category
KRT parameters			
KRT initiation threshold	Prof. Michel Jadoul, personal communication	-	Patients undergoing peritoneal dialysis or haemodialysis Prevalence of KRT by year, and transplantation rate per dialysis patient-year Risk of transplantation failure
Chance of being treated	O'Callaghan et al., 2011 [16]	UK	
Peritoneal dialysis	Cleemput et al., 2010 [17]	-	
Haemodialysis	Jaarrapport, 2019 [18]	-	
Transplantation	UK Renal Registry (p91) [19]	UK	
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Categorized by albuminuria level
Hypertension	HSE, 2016 [4]	UK	
	Barzilay et al., 2018 [20]	UK	
Cardiovascular complications of CKD			
Heart failure	Devroey et al., 2010 [21]	-	Incidence
	Smeets et al., 2019 [22]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Belgian Federal Public Service: Health, Food Chain Safety and Environment, 2016 [23]	-	Incidence
	Moran et al., 2012 [24]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	IHME Global Burden of Diseases, 2019 [25]	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
Brazil			
eGFR	Piccolli et al., 2017 [26]	-	Categorical eGFR data for both sexes combined, for three age groups (18–29 years, 30–59 years, and ≥60 years). Redistributed based on [4]

Albuminuria	Piccolli et al., 2017 [26]	-	Categorical albuminuria data by sex and albuminuria stage combined
KRT parameters			
KRT initiation threshold	Pyart et al., 2020 [27]	UK	
Chance of being treated	Organización Nacional de Trasplantes, 2018 [28]	Spain	
Peritoneal dialysis	Machado et al., 2011 [29]	-	Incident peritoneal dialysis or haemodialysis
	Brazilian Dialysis Registry [30] (not publicly accessible)	-	Prevalent peritoneal dialysis or haemodialysis
Haemodialysis	Organización Nacional de Trasplantes, 2018 [28]	-	Prevalence of KRT by modality
	Neves et al., 2021 [31]	Spain	Calculated transplantation rate per 100 dialysis patients per year
Transplantation	Oliveira et al., 2005 [32]	-	Risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	Ruiz-Hurtado et al., 2016 [33]	Spain	Categorized by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Fernández-Gassó et al., 2019 [34]	Spain	Incidence
	Oliveira et al., 2020 [35]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Forcadell et al., 2018 [36]	Spain	Incidence (prevalence calculated)
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Vega et al., 2009 [37]	Spain	Incidence (prevalence calculated)
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Stages 1 and 2
	Average from TriNetX and LCED database analysis by AstraZeneca (data on file)	USA	Stages 3a and 3b
	Bakris et al., 2020 [38]	USA	Stages 4 and 5

Canada			
eGFR	HSE, 2016 [4]	UK	Percentage distribution of eGFR and albuminuria by age/sex
Albuminuria			
KRT parameters			
KRT initiation threshold	Dr Navdeep Tangri, personal communication	-	Renal replacement therapy model in Canada
Chance of being treated	O'Callaghan et al., 2011 [16]	UK	
Peritoneal dialysis	Canadian Institute for Health Information, 2018 [39]	-	
Haemodialysis	USRDS, 2021 [40]	-	Transplantation rate per dialysis patient-year
Transplantation	Pyart et al., 2020 [27]	-	Risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	Armstrong et al., 2019 [41]	-	Proportion of patients with CKD, categorized by albuminuria level
Hypertension	NHANES, 2018 [42]	-	
Cardiovascular complications of CKD			
Heart failure	Canadian Chronic Disease Surveillance System, 2016 [43]	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Canadian Chronic Disease Surveillance System, 2016 [43]	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Canadian Chronic Disease Surveillance System, 2016 [43]	-	Incidence and prevalence
	Masson et al., 2015 [10]	USA	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Probability of dying from any cause by CKD stage
	Levey et al., 2011 [13]	-	
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
China			
eGFR	Zhang et al., 2012 [44]	-	Categorical eGFR data for adults, distributed by age/sex (disaggregated based on [4])
Albuminuria	Japanese Society of Nephrology, 2012 [45]	Japan	Categorical albuminuria data for both sexes, by age (disaggregated based on [4])
KRT parameters			
KRT initiation threshold	Watanabe et al., 2015 [46]	Japan	

Chance of being treated	Zhang et al., 2019 [47]	-	
Peritoneal dialysis	Zhang et al., 2019 [47]	-	Prevalence of KRT by year
	Chinese National Renal Data System [48]	-	Incidence of peritoneal dialysis and haemodialysis
Haemodialysis	Sun et al., 2016 [49]	-	Prevalence of peritoneal dialysis and haemodialysis
	Chinese National Renal Data System [48]	-	Transplantation rate per dialysis patient-year
Transplantation	Xue et al., 2017 [50]	-	Risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension	Barzilay et al., 2018 [20]	UK	
	HSE, 2016 [4]	UK	
Cardiovascular complications of CKD			
Heart failure	Sun et al., 2009 [51]	-	Prevalence (incidence calculated)
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Japanese-language paper [52]	Japan	Incidence (prevalence calculated)
	USRDS, 2009 [7]	USA	Relative risk
Stroke	IHME, Global Burden of Diseases, 2019 [25]	-	Prevalence and incidence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]		Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
Colombia			
eGFR	Otero et al., 2010 [53]	Spain	eGFR stages redistributed by UK data
Albuminuria	Gorostidi et al., 2018 [54]	Spain	
KRT parameters			
KRT initiation threshold	Dr Albert Power, personal communication	UK	
Chance of being treated	O'Callaghan et al., 2011 [16]	UK	
Peritoneal dialysis	Calculated from Cuenta de Alto Costo, 2021 [55]	-	Incidence and prevalence of patients receiving KRT who are undergoing peritoneal dialysis and haemodialysis

Haemodialysis	Cuenta de Alto Costo, 2021 [55] Urrego et al., 2022 [56]	- -	Prevalence of KRT by year Transplantation number per year
Transplantation	Estupiñán-Bohórquez et al., 2021 [57]	-	Annual risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	Ruiz-Hurtado et al., 2016 [33]	Spain	Categorized by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Gómez, 2016 [58]	-	Incidence
	SISPRO [59]	-	Distribution by age and sex
	Gómez-Mesa et al., 2021 [60]	-	Prevalence
	SISPRO [59]	-	Distribution by age and sex
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Canadian Chronic Disease Surveillance System, 2016 [43]	Canada	Incidence
	Bedoya-Rios et al., 2016 [61]	-	Prevalence
	SISPRO [59]	-	Distribution by age and sex
	USRDS, 2009 [7]	USA	Relative risk
Stroke	SISPRO and Congreso de la República Colombiana, 2021 [59]	-	Incidence
	El Hospital, 2018 [62]	-	Prevalence
	SISPRO [58]	-	Distribution by age and sex
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Stages 1 and 2
	Average from TriNetX and LCED database analysis by AstraZeneca (data on file)	USA	Stages 3a and 3b
	Bakris et al., 2020 [38]	USA	Stages 4 and 5
Denmark			
eGFR	HSE, 2016 [4]	UK	eGFR and AER by age
Albuminuria			
KRT parameters			
KRT initiation threshold	Danish Society of Nephrology, 2015 [63]	-	

Chance of being treated	Danish Nephrological Society National Register, 2020 [64]	-	
Peritoneal dialysis	Danish Nephrological Society National Register, 2020 [64]	-	Incidence and prevalence of patients receiving KRT who are undergoing peritoneal dialysis and haemodialysis
Haemodialysis			Prevalence of KRT by year
Transplantation	Sundhend, 2019 [65]	-	Transplantation rate per 100 dialysis patients per year Annual risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension	Barzilay et al., 2018 [20]	UK	
	HSE, 2016 [4]	UK	
Cardiovascular complications of CKD			
Heart failure	Hjerte foreningen, 2018 [66]	-	Incidence
	Hjerte foreningen, 2018 [67]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Hjerte foreningen, 2018 [68]	-	Incidence
	Hjerte foreningen, 2018 [67]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Hjerte foreningen, 2018 [69]	-	Incidence
	Hjerte foreningen, 2018 [70]	-	Prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
France			
eGFR	HSE, 2016 [4]	UK	eGFR stages by 5-year age categories
Albuminuria	HSE, 2016 [4]	UK	AER stages by 5-year age categories
KRT parameters			
KRT initiation threshold	Pyart et al., 2020 [27]	UK	
Chance of being treated	REIN report, 2018 [71]	-	

Peritoneal dialysis	REIN report, 2018 [71]	-	Incidence and prevalence of patients receiving KRT who are undergoing peritoneal dialysis and haemodialysis Prevalence of KRT by year Transplantation rate per 100 dialysis patients per year Annual risk of transplantation failure
Haemodialysis			
Transplantation			
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Analysis of THIN, 2019 (data on file)	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Analysis of THIN, 2019 (data on file)	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Analysis of THIN, 2019 (data on file)	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
Germany			
eGFR	Girndt et al., 2016 [72]	-	eGFR by age category, disaggregated based on [5]
Albuminuria			
KRT parameters			
KRT initiation threshold	Wanner et al., 2003 [73]	-	
Chance of being treated	Frei et al., 2008 [74]	-	
Peritoneal dialysis	Frei et al., 2008 [74]	-	Incidence and prevalence of patients receiving KRT who were undergoing peritoneal dialysis and haemodialysis
Haemodialysis			
Transplantation	Satayathum et al., 2005 [75]	-	Rate per 100 dialysis patients per year

	Frei et al., 2008 [74]	-	Risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension	Barzilay et al., 2018 [20]	UK	
	HSE, 2016 [4]	UK	
Cardiovascular complications of CKD			
Heart failure	GBE Federation, 2021 [76]	-	Incidence calculated from prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	GBE Federation, 2021 [76]	-	Incidence calculated from prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	GBE Federation, 2021 [76]	-	Incidence calculated from prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
Greece			
eGFR	Otero et al., 2010 [53]	Spain	eGFR by age category, redistributed based on UK data
Albuminuria	Gorostidi et al., 2018 [54]	Spain	UACR by age category, redistributed based on UK data
KRT parameters			
KRT initiation threshold	Pyart et al., 2020 [27]	UK	
Chance of being treated	ERA-EDTA Registry, 2019 [77]	-	
Peritoneal dialysis	ERA-EDTA Registry, 2019 [77]	-	Incidence and prevalence of patients receiving KRT who are undergoing peritoneal dialysis and haemodialysis
Haemodialysis			Prevalence of KRT by year Transplantation rate per 100 dialysis patient-years

Transplantation	Grandaliano, 2020 [78]	Italy	Annual risk of transplantation failure (calculated from 10-year failure rate of 40%)
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension	Barzilay et al., 2018 [20]	UK	
	HSE, 2016 [4]	UK	
Cardiovascular complications of CKD			
Heart failure	Piccinni et al., 2017 [79]	Italy	Incidence
	Bosch et al., 2019 [80]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Registro dell'infarto miocardico acuto nell'ASL di Brescia [81]	Italy	Incidence
	Hellenic Statistical Authority, 2020 [82]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Karantali et al., 2022 [83]	-	Incidence
	Hellenic Statistical Authority, 2020 [82]	-	Prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
	Maccabi database (data on file)	Israel	Stages 1 and 2
Hungary			
eGFR	Zdrojewski et al., 2015 [84]	Poland	eGFR data by age and two risk categories, disaggregated using UK data
Albuminuria	Chudek et al., 2014 [85]	Poland	Albuminuria data by age and risk category
KRT parameters			
KRT initiation threshold	Pyart et al., 2020 [27]	UK	
Chance of being treated	O'Callaghan et al., 2011 [16]	UK	

Peritoneal dialysis	Calculated using NHIFA real-world data	-	Incidence and prevalence of patients receiving KRT who are undergoing peritoneal dialysis and haemodialysis
Haemodialysis	MANET - Hungarian Society of Nephrology 2016–2019 [86] NHIFA real-world data (data on file)	-	Prevalence of KRT per 100 000 by year Transplantation rate per 100 dialysis patient-years
Transplantation	Analysis from national inpatient claims database (data on file)	Romania	Annual risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	Analysis from national inpatient claims database (data on file)	Romania	Proportion of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Hungarian NHIFA analysis, 2019 (data on file)	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Hungarian NHIFA analysis, 2019 (data on file)	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Hungarian NHIFA analysis, 2019 (data on file)	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Stages 1 and 2
	Average from TriNetX and LCED database analysis by AstraZeneca (data on file)	USA	Stages 3a and 3b
	Bakris et al., 2020 [38]	USA	Stages 4 and 5
India			
eGFR	Anand et al., 2015 [87]	-	Disaggregated based on [4]
Albuminuria			
KRT parameters			
KRT initiation threshold	Prof. Eiichiro Kanda, personal communication	Japan	
Chance of being treated	UK Renal Registry [88]	UK	

Peritoneal dialysis	Parameswaran et al., 2011 [89] Nitta et al., 2020 [90] Japanese Society for Transplantation, 2020 [91]	- Japan [91]	Incidence of patients who are undergoing KRT Prevalence of patients who are undergoing KRT calculated from [90] and [91]
Haemodialysis	Bharati et al., 2020 [92] Zhang et al., 2019 [47] (rescaled to India population)	China [47]	Prevalence of KRT per 100 000 by year
Transplantation	Japanese Society for Transplantation, 2020 [91] Xue et al., 2017 [50]	Japan China	Calculated transplantation rate Risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	NHANES, 2020 [93]	USA	
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Japanese-language paper [52]	Japan	Incidence
	E-Stat Japan [94]	Japan	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Japanese Registry of All Cardiac and Vascular Diseases [95]	Japan	Incidence
	Ministry of Health, Labour and Welfare, 2019 [96]	Japan	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Das et al., 2006 [97]	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
Israel			
eGFR	Maccabi database, 2019 (database not publicly available)	-	Percentage distribution of eGFR and albuminuria by age and sex
Albuminuria			
KRT parameters			
KRT initiation threshold	Pyart et al., 2020 [27]	UK	
Chance of being treated	Prof. Avraham Karasik, personal communication	-	

Peritoneal dialysis	Israel Government Dialysis Report, 2020 [98]	-	Incidence of patients who are undergoing KRT
Haemodialysis			Prevalence of patients who are undergoing KRT
Transplantation	Pyart et al., 2020 [27]	UK	Transplantation rate Prevalence of KRT modality per 100 000 by year Risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	Maccabi database, 2019 (database not publicly available)	-	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Maccabi database, 2019	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Maccabi database, 2019	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Maccabi database, 2019	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Maccabi database, 2019	-	Diagnosis rates provided by agency (database not publicly available)
Italy			
eGFR	De Nicola et al., 2015 [99]	-	Percentage distribution of eGFR and albuminuria by age/sex, distributed based on data from France
Albuminuria			
KRT parameters			
KRT initiation threshold	Ministero della Salute, 2014 [100]	-	
Chance of being treated	Organización Nacional de Trasplantes, 2018 [28]	Spain	
Peritoneal dialysis	Organización Nacional de Trasplantes, 2018 [28]	Spain	Incidence of patients who are undergoing KRT
	Nordio et al., 2020 [101]	-	Prevalence of patients who are undergoing KRT

Haemodialysis	Organización Nacional de Trasplantes, 2018 [28] Grandaliano, 2020 [78]	Spain	Prevalence of KRT per 100 000 by year
Transplantation			Transplantation rate per 100 dialysis patients Calculated from 10-year failure rate of 40%
Comorbidities of CKD			
Type 2 diabetes	Ruiz-Hurtado et al., 2016 [33]	Spain	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Piccinni et al., 2017 [79]	-	Prevalence calculated from incidence
	USRDS, 2009 [7]	-	Relative risk
Myocardial infarction	Registro dell'infarto miocardico acuto nell'ASL di Brescia [81]	-	Prevalence calculated from incidence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Corso et al., 2013 [102]	-	Prevalence calculated from incidence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Stages 1 and 2
	Average from TriNetX and LCED database analysis by AstraZeneca (data on file)	USA	Stages 3a and 3b
	Bakris et al., 2020 [38]	USA	Stages 4 and 5
Japan			
eGFR	Japanese Society of Nephrology, 2012 [45]	-	Percentage distribution of eGFR and albuminuria by age/sex
Albuminuria	HSE, 2016 [4]	UK	Aged <40 years
	Japanese Society of Nephrology, 2012 [45]	-	Aged >40 years: Japan AER albuminuria data by single age category, redistributed based on UK data
KRT parameters			
KRT initiation threshold	Prof. Eiichiro Kanda, personal communication		
Chance of being treated	O'Callaghan et al., 2011 [16]	UK	
Peritoneal dialysis	Calculated using Yagisawa et al., 2019 [103] and Nitta et al., 2020 [90]	-	Incidence of patients who are undergoing KRT

Haemodialysis	Calculated using Nitta et al., 2020 [90] and the Japanese Society for Transplantation, 2020 [91]	-	Prevalence of patients who are undergoing KRT
Transplantation	Calculated UK Renal Registry (p91) [19]	- UK	Transplantation rate Risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension	Barzilay et al., 2018 [20]	UK	
	HSE, 2016 [4]	UK	
Cardiovascular complications of CKD			
Heart failure	Japanese-language paper [52]	-	Incidence
	E-Stat Japan [94]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Japanese-language paper [52]	-	Incidence
	The Japanese Registry of All Cardiac and Vascular Diseases, 2019 [95]; Ministry of Health, Labour and Welfare, 2019 [96]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Takashima et al., 2017 [104]	-	Incidence
	E-Stat Japan [94]	-	Prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
Mexico			
eGFR	Cueto-Manzano et al., 2014 [105]	-	Percentage distribution of eGFR and albuminuria by age/sex
Albuminuria			
KRT parameters			
KRT initiation threshold	USRDS, 2020 [106]	USA	
Chance of being treated	Garcia-Garcia et al., 2007 [107]	-	
Peritoneal dialysis	USRDS, 2020 [108]	USA	Incidence of patients who are undergoing KRT

Haemodialysis	USRDS, 2020 - average from both regions [106] (Jalisco and Aguascalientes)	USA	Prevalence of KRT by year
	USRDS, 2021 [40]	USA	Prevalence of patients who are undergoing KRT
Transplantation	USRDS, 2020 [106]	USA	Transplantation rate Risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	Ruiz-Hurtado et al., 2016 [33]	Spain	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Fernández-Gassó et al., 2019 [34]	Spain	Incidence
	Farré et al., 2017 [108]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	IHME Global Burden of Diseases, 2019 [25]	-	Incidence and Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	IHME Global Burden of Diseases, 2019 [25]	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Stages 1 and 2
	Average from TriNetX and LCED database analysis by AstraZeneca (data on file)	USA	Stages 3a and 3b
	Bakris et al., 2020 [38]	USA	Stages 4 and 5
Netherlands			
eGFR	HSE, 2016 [4]	UK	Stages by 5-year age categories
Albuminuria	HSE, 2016 [4]	UK	Stages for four age groups
KRT parameters			
KRT initiation threshold	Dutch guideline for diabetic nephropathy, 2020 [109]	-	
Chance of being treated	O'Callaghan et al., 2011 [16]	UK	
Peritoneal dialysis	Nefrovisie, 2022 [110]	-	Incidence and prevalence of patients receiving KRT who were undergoing peritoneal dialysis and haemodialysis
Haemodialysis			Prevalence of KRT by year

Transplantation	O'Callaghan et al., 2011 [16]	-	Transplantation rate per 100 dialysis patients per year Annual risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Prevalence of type 2 diabetes and hypertension in the CKD population by albuminuria level
Hypertension	HSE, 2016 [4]	UK	
Cardiovascular complications of CKD			
Heart failure	Dutch Heart Foundation, 2021 [111]	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Dutch Heart Foundation, 2021 [111]	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Dutch Heart Foundation, 2021 [111]	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
Philippines			
eGFR	Nang et al., 2009 [112]	Singapore	Percentage prevalence of each eGFR stage, disaggregated by age and sex using data from UK and China
Albuminuria	Piccolli et al., 2017 [26]	Brazil	Percentage distribution of eGFR and albuminuria by age/sex
KRT parameters			
KRT initiation threshold	Watanabe et al., 2015 [46]	Japan	
Chance of being treated	O'Callaghan et al., 2011 [16]	UK	
Peritoneal dialysis	Chinese National Renal Data System [48] Xue et al., 2017 [50]	USA	Incidence and prevalence of patients receiving KRT who were undergoing peritoneal dialysis and haemodialysis, and prevalence of KRT by year Transplantation rate per 100 dialysis patients per year Risk of transplantation failure
Haemodialysis		China	
Transplantation		China	

Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Categorized by albuminuria level
Hypertension	HSE, 2016 [4]	UK	
	Barzilay et al., 2018 [20]	UK	
Cardiovascular complications of CKD			
Heart failure	Japanese-language paper [52]	Japan	Incidence
	E-Stat Japan [94]	Japan	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Japanese-language paper [52]	Japan	Incidence
	The Japanese Registry of All Cardiac and Vascular Diseases, 2019 [95]; Ministry of Health, Labour and Welfare, 2019 [96]	Japan	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	IHME Global Burden of Diseases, 2019 [25]	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Wong et al., 2018 [114]	Singapore	
Poland			
eGFR	Zdrojewski et al., 2015 [84]	-	eGFR data by age and two risk categories, disaggregated using UK data. Albuminuria data by age and risk category
Albuminuria	Chudek et al., 2014 [85]	-	
KRT parameters			
KRT initiation threshold	Myśliwiec, 2021 [115]	-	
Chance of being treated	NHF CKD, 2020 [116]	-	Chance of being treated, incidence and prevalence of patients receiving KRT who were undergoing dialysis, and prevalence of KRT by year Rate per 100 dialysis patients per year Annual risk of transplantation failure
Peritoneal dialysis	Dębska-Ślizień et al., 2020 [117]	-	
Haemodialysis			
Transplantation	ANZDATA 43rd Annual Report, 2020 [3]	Australia	
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension	Barzilay et al., 2018 [20]	UK	

	HSE, 2016 [4]	UK	
Cardiovascular complications of CKD			
Heart failure	MPZ Kardiologia, 2018 [118]	-	Incidence
	National inpatient claims database analysis (data on file)	Romania	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	National inpatient claims database analysis (data on file)	Romania	Incidence
	Dutch Heart Foundation, 2021 [111]	Netherlands	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	National inpatient claims database analysis (data on file)	Romania	Incidence
	Dutch Heart Foundation, 2021 [111]	Netherlands	Prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
Romania			
eGFR	Zdrojewski et al., 2015 [84] Chudek et al., 2014 [85]	Poland Poland	eGFR data by age and two risk categories, disaggregated using UK data
Albuminuria			Albuminuria data by age and risk category
KRT parameters			
KRT initiation threshold	Myśliwiec, 2021 [115]	Poland	
Chance of being treated	O'Callaghan et al., 2011 [16]	UK	Divided by the results of a calculation that estimated the percentage of the population of the UK undergoing KRT
Peritoneal dialysis	Spitalul Clinic de Nefrologie Carol Davila, 2022 [119]	-	Incidence and prevalence of patients receiving KRT who are undergoing dialysis
Haemodialysis	Haemodialysis and peritoneal dialysis: Romanian Renal Registry Report, 2019–2020 [120]	-	Prevalence of KRT by year

Transplantation	ERA-EDTA annual reports [121]	-	Prevalence of KRT by year
	Spitalul Clinic de Nefrologie Carol Davila, 2017 [122]	-	Rate per 100 dialysis patients per year
	Analysis from national inpatient claims database (data on file)	-	Annual risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	Analysis from national inpatient claims database (data on file)	-	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	MPZ Kardiologia, 2018 [118]	Poland	Incidence
	National inpatient claims database analysis (data on file)	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	National inpatient claims database analysis (data on file)	-	Incidence
	Dutch Heart Foundation, 2021 [111]	Netherlands	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	National inpatient claims database analysis (data on file)	-	Incidence
	Dutch Heart Foundation, 2021 [111]	Netherlands	Prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
Saudi Arabia			
eGFR	Ahmed et al., 2014 [123]	-	Percentage distribution of eGFR and albuminuria by age/sex
Albuminuria	NHANES, 2020 [93]	USA	
KRT parameters			
KRT initiation threshold	USRDS, 2020 [113]	USA	
Chance of being treated	Organización Nacional de Trasplantes, 2018 [28]	Spain	
Peritoneal dialysis	Al-Attar, 2021 [124]	-	Incidence and prevalence of patients receiving KRT who are undergoing dialysis

Haemodialysis	Saudi Center for Organ Transplantation, 2019 [125]	-	Prevalence of KRT by modality
Transplantation	Calculated from Neves et al., 2021 [31] UK Renal Registry (p91) [19]	Brazil UK	Transplantation rate Risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	NHANES, 2020 [93]	USA	Prevalence of type 2 diabetes and hypertension in the CKD population by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Benjamin et al., 2019 [126]	USA	Incidence calculated from prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Mozaffarian et al., 2015 [127]	USA	Incidence calculated from prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Alhazzani et al., 2018 [128]	-	Incidence
	IHME Global Burden of Diseases, 2019 [25]	-	Prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Stages 1 and 2
	Average from TriNetX and LCED database analysis by AstraZeneca (data on file)	USA	Stages 3a and 3b
	Bakris et al., 2020 [38]	USA	Stages 4 and 5
Singapore			
eGFR	Nang et al., 2009 [112]	-	Disaggregated into more granular eGFR stages using data from China, and disaggregated by age and sex using UK data
Albuminuria	Nang et al., 2009 [112]	-	
KRT parameters			
KRT initiation threshold	Watanabe et al., 2015 [46]	Japan	
Chance of being treated	Singapore Renal Registry Annual Report, 2018 [129]	-	Chance of being treated, incidence and prevalence of patients receiving KRT who

Peritoneal dialysis			are undergoing dialysis, and prevalence of KRT by year
Haemodialysis			
Transplantation	Chinese National Renal Data System [48] Singapore Renal Registry Annual Report, 2018 [129]	China -	Rate per 100 dialysis patients per year Annual risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension	Barzilay et al., 2018 [20]	UK	
	HSE, 2016 [4]	UK	
Cardiovascular complications of CKD			
Heart failure	Calculated		Incidence
	Sun et al., 2009 [51]	China	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Singapore Myocardial Infarction Registry Annual Report, 2018 [130]	-	Incidence
	Calculated	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	IHME Global Burden of Diseases, 2019 [25]	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Wong et al., 2018 [114]	-	
South Korea			
eGFR	Park et al., 2016 [131] Kim et al., 2009 [132]	- -	Percentage distribution of eGFR and albuminuria by age/sex (≥ 0 years with each stage of CKD)
Albuminuria			Percentage distribution of eGFR and albuminuria by age/sex (≥ 18 years with each stage of albuminuria)

KRT parameters			
KRT initiation threshold	Assumption		
Chance of being treated	O'Callaghan et al., 2011 [16]	UK	
Peritoneal dialysis	Korean Society of Nephrology [133]	-	Incidence and prevalence of patients receiving KRT who are undergoing dialysis
Haemodialysis	Korean Society of Nephrology [133]	-	Transplantation rate per 100 dialysis patients per year
	Kim and Jin, 2020 [134]	-	Prevalence of KRT by modality
Transplantation	Park et al., 2020 [135]	-	Risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension	HSE, 2016 [4]	-	
	Barzilay et al., 2018 [20]	UK	
Cardiovascular complications of CKD			
Heart failure	National Health Interview Survey, 2018 [136]	-	Incidence
	Lee et al., 2016 [137]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Kim et al., 2019 [138]	-	Prevalence calculated from incidence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Korea Disease Control and Prevention Agency, 2018 [139]	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
Spain			
eGFR	Otero et al., 2010 [53]	-	Categorical eGFR data, redistributed based on UK data
Albuminuria	Gorostidi et al., 2018 [54]	-	Categorical albuminuria data for both sexes, by age, redistributed based on UK data

KRT parameters			
KRT initiation threshold	Prof. Juan Francisco Navarro-González, personal communication	-	
Chance of being treated	Organización Nacional de Trasplantes, 2018 [28]	-	Incidence and prevalence of patients receiving KRT who are undergoing dialysis, and prevalence of KRT by modality Transplantation rate per dialysis patient-year Risk of transplantation failure
Peritoneal dialysis			
Haemodialysis			
Transplantation			
Comorbidities of CKD			
Type 2 diabetes	Ruiz-Hurtado et al., 2016 [33]	-	Proportion of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Fernández-Gassó et al., 2019 [34]	-	Incidence
	Farré et al., 2017 [108]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Forcadell et al., 2018 [36]	-	Incidence, prevalence calculated
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Vega et al., 2009 [37]	-	Incidence, prevalence calculated
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	Instituto Nacional de Estadística, 2020 [141]	-	Number of deaths by age
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Stages 1 and 2
	Average from TriNetX and LCED database analysis by AstraZeneca (data on file)	USA	Stages 3a and 3b
	Bakris et al., 2020 [38]	USA	Stages 4 and 5
Sweden			
eGFR	Analysis of SCREAM data (study information: Mazhar et al., 2022 [in press]); data on file	-	Categorized by age and sex
Albuminuria			
KRT parameters			
KRT initiation threshold	Prof. Johan Ärnlöv, personal communication	-	

Chance of being treated	Frei et al., 2008 [74]	Germany	
Peritoneal dialysis	Svenskt Njurregister, 2021 [141]	-	Incidence and prevalence of patients receiving KRT who are undergoing dialysis, and prevalence of KRT by year
Haemodialysis			
Transplantation	Jaarrapport, 2019 [18]	Belgium	Transplantation rate per dialysis patient-year
	Njurförbundet, 2021 [142]	-	Annual risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	CELOSIA analysis, 2019 (data on file)	-	Proportion of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Analysis of SCREAM data (study information: Mazhar et al., 2022 [in press]); data on file	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Analysis of SCREAM data (study information: Mazhar et al., 2022 [in press]); data on file	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Analysis of SCREAM data (study information: Mazhar et al., 2022 [in press]); data on file	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	CELOSIA analysis, 2019 (data on file)	-	
Taiwan			
eGFR	Kweon et al., 2014 [143]	South Korea	Mean eGFR and albuminuria by age category and sex
Albuminuria			
KRT parameters			
KRT initiation threshold	Prof. Mai-Szu Wu, personal communication	-	
Chance of being treated	O'Callaghan et al., 2011 [16]	UK	
Peritoneal dialysis	Taiwan Society of Nephrology, 2019 [144]	-	Incidence and prevalence of patients receiving KRT who

Haemodialysis			are undergoing dialysis, and prevalence of KRT by year
Transplantation			Transplantation rate per dialysis patient-year Annual risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	Lin et al., 2007 [145]	South Korea	Proportion of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension	Han et al., 2015 [146]	South Korea	
Cardiovascular complications of CKD			
Heart failure	Ministry of Health and Welfare, 2013 [147]	-	Incidence and prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Wang et al., 2019 [148]	-	Incidence
	Siqueira and De Souza, 2020 [149]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Ministry of Health and Welfare, 2013 [147]	-	Incidence, prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
Thailand			
eGFR	Perkovic et al., 2008 [150]	-	Prevalence of eGFR stage by age group
Albuminuria	Zhang et al., 2012 [44]	China	Categorical albuminuria data for both sexes, by age
	Japanese Society of Nephrology [45]	Japan	
KRT parameters			
KRT initiation threshold	Assoc. Prof. Jason Choo Chon Jun, personal communication	-	
Chance of being treated	O'Callaghan et al., 2011 [16]	UK	
Peritoneal dialysis	Nephrology Society of Thailand [151]	-	Incidence and prevalence of patients receiving KRT who are undergoing dialysis, and prevalence of KRT by year
Haemodialysis	Chinese National Renal Data System [48] Xue et al., 2017 [50]	China	Transplantation rate
Transplantation		China	

			Risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension	HSE, 2016 [4]	UK	
	Barzilay et al., 2018 [20]	UK	
Cardiovascular complications of CKD			
Heart failure	Japanese-language paper [52]	Japan	Incidence
	E-Stat Japan [94]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Japanese-language paper [52]	Japan	Incidence
	The Japanese Registry of All Cardiac and Vascular Diseases, 2019 [96]; Ministry of Health, Labour and Welfare, 2019 [96]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	IHME Global Burden of Diseases, 2019 [25]	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Wong et al., 2018 [114]	Singapore	
Türkiye			
eGFR	Süleymanlar et al., 2011 [152]	-	Categorical eGFR data for adults, disaggregated according to Spain proxy data, and distributed by age and sex according to US proxy data
Albuminuria			Categorical albuminuria data for both sexes, by age
KRT parameters			
KRT initiation threshold	Prof. Bülent Altun, personal communication	-	Hacettepe University, Department of Nephrology, May 2021
Chance of being treated	Registry of Nephrology, 2014 [153]	-	
Peritoneal dialysis	Registry of Nephrology, 2014 [153]	-	Incidence and prevalence of patients receiving KRT who are undergoing dialysis
Haemodialysis			Prevalence of KRT by year

Transplantation	Organización Nacional de Trasplantes, 2018 [28]	Spain	Transplantation rate per 100 dialysis patients per year Risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	UK	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension	HSE, 2016 [4]	UK	
	Barzilay et al., 2018 [20]	UK	
Cardiovascular complications of CKD			
Heart failure	Fernández-Gassó et al., 2019 [34]	Spain	Incidence
	Farré et al., 2017 [108]	-	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Forcadell et al., 2018 [36]	Spain	Incidence (prevalence calculated)
	USRDS, 2009 [7]	USA	Relative risk
Stroke	Vega et al., 2009 [37]	Spain	Incidence
	Díaz-Guzmán et al., 2008 [154]	-	Prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Average calculated from both inputs
	HSE, 2016 [4]	UK	
UAE (Emirati and migrant populations)*			
eGFR	Emirati: Ahmed et al., 2014 [123]	Saudi Arabia	Categorical eGFR by age
	Migrant: Anand et al., 2015 [54]	India	KDIGO grid
Albuminuria	Emirati: NHANES, 2020 [93]	USA	Individual-level continuous albuminuria data
	Migrant: Anand et al., 2015 [87]	India	KDIGO grid
KRT parameters			
KRT initiation threshold	O'Callaghan et al., 2011 [16]	UK	
Chance of being treated			
Peritoneal dialysis	Al-Attar, 2021 [124]	Saudi Arabia	Incidence of patients who are undergoing KRT
Haemodialysis	Saudi Center for Organ Transplantation, 2019 [125]	Saudi Arabia	Prevalence of patients who are undergoing KRT, and prevalence of KRT by year

Transplantation	Prof. Stephen Holt, personal communication	-	Transplantation rate per dialysis patient-year
	O'Callaghan et al., 2011 [16]	-	Annual risk of transplantation failure
Comorbidities of CKD			
Type 2 diabetes	NHANES, 2018 [155]	USA	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Calculated from prevalence	-	Incidence
	Benjamin et al., 2019 [126]	USA	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Myocardial infarction	Calculated from prevalence	-	Incidence
	Mozaffarian et al., 2015 [127]	USA	Prevalence
	USRDS, 2009 [7]	USA	Relative risk
Stroke	IHME Global Burden of Diseases, 2019 [25]	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Stages 1 and 2
	Average from TriNetX and LCED database analysis by AstraZeneca (data on file)	USA	Stages 3a and 3b
	Bakris et al., 2020 [38]	USA	Stages 4 and 5
UK			
eGFR	HSE, 2016 [4]	-	Categorical eGFR and albuminuria data for both sexes, by age
Albuminuria			
KRT parameters			
KRT initiation threshold	Dr Albert Power, personal communication	-	
Chance of being treated	O'Callaghan et al., 2011 [16]	-	
Peritoneal dialysis	UK Renal Registry [88]	-	Incidence and prevalence of patients receiving KRT who are undergoing dialysis
Haemodialysis	Pyart et al., 2020 [27]	-	KRT prevalence by year
	USRDS, 2021 [40]	USA	Transplantation rate per 100 dialysis patients per year
Transplantation	UK Renal Registry (p91) [19]	-	Risk of transplantation failure

Comorbidities of CKD			
Type 2 diabetes	HSE, 2016 [4]	-	Prevalence of type 2 diabetes and hypertension in the CKD population, by albuminuria level
Hypertension			
Cardiovascular complications of CKD			
Heart failure	British Heart Foundation, 2020 [5]	USA	Incidence and prevalence
Myocardial infarction	USRDS, 2009 [7]	USA	Relative risk
Stroke	British Heart Foundation, 2020 [5]	-	Incidence and prevalence
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	-	Average calculated from both inputs
	HSE, 2016 [4]	-	
USA			
eGFR	NHANES, 2020 [93]	-	Individual-level continuous eGFR and albuminuria data
Albuminuria			
KRT parameters			
KRT initiation threshold	Prof. Glenn Chertow, personal communication	-	
Chance of being treated	O'Callaghan et al., 2011 [16]	UK	
Peritoneal dialysis	USRDS, 2021 [156]	-	Incidence and prevalence of patients receiving KRT who are undergoing dialysis KRT prevalence by year Transplantation rate Risk of transplantation failure
Haemodialysis			
Transplantation			
Comorbidities of CKD			
Type 2 diabetes	NHANES, 2020 [93]	-	
Hypertension			
Cardiovascular complications of CKD			
Heart failure	Benjamin et al., 2019 [126]	-	Prevalence Incidence estimated from prevalence and mortality [6]
	USRDS, 2009 [7]	-	Relative risk
Myocardial infarction	Mozaffarian et al., 2015 [127]	-	Prevalence Incidence estimated from prevalence and mortality [6]

	USRDS, 2009 [7]	-	Relative risk
Stroke	Benjamin et al., 2019 [126]	-	Prevalence Incidence estimated from prevalence and mortality [6]
	Masson et al., 2015 [10]	-	Relative risk
Mortality			
Mortality by CKD stage	UN, World Population Prospects, 2019 [11, 12]	-	Total number of deaths by age and sex
	Levey et al., 2011 [13]	-	Probability of dying from any cause by CKD stage
Diagnosis rates			
Diagnosis rates by stage	Hirst et al., 2020 [14]	UK	Stages 1 and 2
	Average from TriNetX and LCED database analysis by AstraZeneca (data on file)	-	Stages 3a and 3b
	Bakris et al., 2020 [38]	-	Stages 4 and 5

*UAE migrant population was modelled separately from the Emirati population owing to distinct population demographics requiring separate input data

ADR=annual data report. AER=albumin excretion rate. ANZDATA=Australia and New Zealand Dialysis and Transplant Registry. CKD=chronic kidney disease. eGFR=estimated glomerular filtration rate. ERA-EDTA=European Renal Association - European Dialysis and Transplant Association. GBE=Gesundheitsberichterstattung. HSE=Health and Safety Executive. IHME=Institute for Health Metrics and Evaluation. KDIGO=Kidney Disease: Improving Global Outcomes. KRT=kidney replacement therapy. LCED=Limited Claims and Electronic Health Record. MANET= Magyar Nephrologiai Társaság. MPZ=Mapa potrzeb zdrowotnych. NHANES=National Health and Nutrition Examination Survey. NHF=National Health Fund. NHIFA=National Health Insurance Fund Administration. REIN= Renal Epidemiology and Information Network. SISPRO=Sistema Integrado de Información de la Protección Social. THIN=The Health Improvement Network. UACR=urine albumin:creatinine ratio. UN=United Nations. USRDS=United States Renal Data System.

Table S3: External validation of clinical burden of disease outputs

Output	External validation reference	External validation value	Inside CKD 2022 value	External validation notes
Australia				
CKD prevalence	Australia Health Survey 2012 [1]	11 000 per 100 000 (aged ≥18 years)	8917 per 100 000	
CKD prevalence change	Australian Institute of Health and Welfare 2018 [2]	24% (Stages 1–5) 42% (Stages 3a–5)	6.6% (2022–2027)	1999–2012
Mortality prevalence	Bikbov et al., 2020 [3]	9.2 per 100 000 (8.3–10.1)	120 per 100 000 (diagnosed patients with CKD)	Age-standardized rate in 2017 (95% CI)
Mortality prevalence change	Australian Institute of Health and Welfare 2020 [4]	56.2–52.1 per 100 000	–7.2% (2022–2027 in diagnosed patients with CKD)	2010–2018
Heart failure prevalence	Conrad et al., 2018 [5]: UK data	24 455 per 100 000 (CKD population)	20 407 per 100 000 (diagnosed patients with CKD)	
Myocardial infarction prevalence	Meisinger et al., 2006 [6]: German data	1465 per 100 000 (male) 482 per 100 000 (female) (CKD population)	5230 per 100 000 (diagnosed patients with CKD)	Presented in person-years and recalculated
Stroke prevalence	Weiner et al., 2004 [7]	10 896 per 100 000 (CKD population)	5064 per 100 000 (diagnosed patients with CKD)	
Belgium				
CKD prevalence	Bikbov et al., 2020 [3]	5642 per 100 000 (5238–6088)	14 186 per 100 000	Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	–1.4% (–4.9–1.9%)	–0.9% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	7.2 per 100 000 (6.7–7.7)	391 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	–29.4% (–34.9 to –23.4%)	–25.6% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Heart failure prevalence	Heart Failure Policy Network 2020 [8]	1–3% (total population)	6908 per 100 000 (diagnosed patients with CKD)	
Stroke prevalence	World Bank 1993 [9]	1876 per 100 000 (total population)	4851 per 100 000 (diagnosed patients with CKD)	Population aged 45–54 years (based on estimates from the WHO Global Burden of Disease 2000 study)
Brazil				
CKD prevalence	Barreto et al., 2016 [10]	8.9%	9.7% of national population	According to baseline data of 14 636 public sector employees aged 35–74 years; 2008–2010
	Piccolli et al., 2017 [11]	11.4%		5216 individuals randomly selected from a pool of 10 000 from the database of a local energy company
Mortality prevalence	Bikbov et al., 2020 [3]	16.1 per 100 000 (15.8–16.5)	200 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used

				to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Souza et al., 2019 [12]	2.79–3.14 per 100 000	–4.7% (2022–2027 in diagnosed patients with CKD)	1996–2016, conducted in a single Brazilian state
Heart failure prevalence	Stevens et al., 2018 [13]	2.0% (total adult population)	8154 per 100 000 (diagnosed patients with CKD)	
Myocardial infarction prevalence	Stevens et al., 2018 [13]	0.2% (total adult population)	3432 per 100 000 (diagnosed patients with CKD)	
Stroke prevalence	Bensenor et al., 2015 [14]	1.6% (male) 1.4% (female) (total population)	3124 per 100 000 (diagnosed patients with CKD)	From the Brazilian National Health Survey based on self-reported data. 60 202 individuals were interviewed
Canada				
CKD prevalence	Arora et al., 2013 [15]	12 500 per 100 000	13 344 per 100 000	12.5% of the population aged 6–79 years, 2007–2009
CKD prevalence change	Bello et al., 2019 [16]	5440–4650 per 100 000	13 344–13 649 per 100 000 (2022–2027)	Study included 559 745 adults in primary healthcare in five provinces: 2010–2015
Mortality prevalence	Bikbov et al., 2020 [3]	7.9 per 100 000 (7.4–8.5)	259 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Heart failure prevalence	Björn et al., 2015 [17]	669 620 cases (total population)	10 197 per 100 000 (diagnosed patients with CKD)	Population aged ≥40 years, 2012–2013
Myocardial infarction prevalence	Statista 2019 [18]	1.2–2.0% (total population)	7088 per 100 000 (diagnosed patients with CKD)	Prevalence of diagnosed acute myocardial infarction in Canada, 2000–2013
Stroke prevalence	Mace-Brickman et al., 2019 [19]	4170 per 100 000 (CKD population)	9633 per 100 000 (diagnosed patients with CKD)	Of 39 120 patients in Ontario. All CKD stages and kidney failure
China				
CKD prevalence	Bikbov et al., 2020 [3]	7180 per 100 000 (6658–7747)	8544 per 100 000	Age-standardized rate in 2017 (95% CI)
	Wang et al., 2018 [20]	11.6%		
	Zhang et al., 2012 [21]	10 800 per 100 000		Sample population aged ≥18 years, 2009–2010
CKD prevalence change	Bikbov et al., 2020 [3]	–6.1% (–8.1 to –4.3%)	0.6% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	10.0 per 100 000 (9.2–10.4)	92 per 100 000 (diagnosed patients with CKD)	Age-standardized rate in 2017 (95% CI)
	Zhang et al., 2020 [22]	256 per 100 000		Patients in hospital with CKD
Mortality prevalence change	Bikbov et al., 2020 [3]	–19.0% (–30.2 to –13.6%)	–21.7% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)

Heart failure prevalence	Zhang et al., 2020 [22]	1690 per 100 000 (CKD population)	4720 per 100 000 (diagnosed patients with CKD)	Population aged ≥ 18 years, 2016
Myocardial infarction prevalence	Zhang et al., 2020 [22]	1822 per 100 000 (CKD population)	13 265 per 100 000 (diagnosed patients with CKD)	2016
Stroke prevalence	Zhang et al., 2020 [22]	1322 per 100 000 (CKD population)	9018 per 100 000 (diagnosed patients with CKD)	Population aged ≥ 18 years
Colombia				
CKD prevalence	Bikbov et al., 2020 [3]	9638 per 100 000 (8935–10 505)	6679 per 100 000	Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	1.1% (-4.7–6.4)	14.6% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	15.7 (14.2–17.3)	99 per 100 000 (diagnosed patients with CKD)	Age-standardized rate per 100 000 (95% CI)
Mortality prevalence change	Bikbov et al., 2020 [3]	-34.1% (-40.5 to -26.9)	-3.2% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990 and 2017 (95% CI)
Stroke prevalence	Pradilla et al., 1995 [23]	0.65% (total population)	1735 per 100 000 (diagnosed patients with CKD)	Screening 16 032 people from seven different rural and urban communities
Denmark				
CKD prevalence	Bikbov et al., 2020 [3]	5816 per 100 000 (5400–6285)	13 888 per 100 000	Age-standardized rate in 2017 (95% CI)
	Thomsen et al., 2018 [24]	9618 per 100 000		2000–2012
	Kampmann et al., 2021 [25]	9.93%		Large register of 669 929 individuals in southern Denmark between 2006 and 2013, providing a geographical coverage of 78%. 66 486 patients had CKD stages 3–5. Only those with a creatinine measurement were included, which could account for an overrepresentation of older/sicker patients
	Vestergaard et al., 2022 [26]	4.6–8.3%		Diagnosed adult population
CKD prevalence change	Bikbov et al., 2020 [3]	4.9% (1.8–8.1)	-2.2% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	7.7 (7.2–8.3)	320 per 100 000 (diagnosed patients with CKD)	Age-standardized rate per 100 000 (95% CI)
	Vestergaard et al., 2022 [26]	8.9%		1-year mortality
Mortality prevalence change	Bikbov et al., 2020 [3]	117.1% (101.1–135.2)	-15.3% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Heart failure prevalence	Thomsen et al., 2018 [24]	With hyperkalaemia: 19.8%; without hyperkalaemia: 8.5% (CKD population)	12 212 per 100 000 (diagnosed patients with CKD)	
Myocardial infarction prevalence	Thomsen et al., 2018 [24]	With hyperkalaemia: 15.2%; without hyperkalaemia: 10.3% (CKD population)	10 977 per 100 000 (diagnosed patients with CKD)	

Stroke prevalence	Thomsen et al., 2018 [24]	With hyperkalaemia: 18.3%; Without hyperkalaemia: 14.7% (CKD population)	9984 per 100 000 (diagnosed patients with CKD)	Cerebrovascular disease prevalence
France				
CKD prevalence	Bikbov et al., 2020 [3]	5242 per 100 000 (4858–5697)	10 816 per 100 000	Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	-1.7% (-6.0–2.5)	5.5% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	4.9 (4.6–5.3)	168 per 100 000 (diagnosed patients with CKD)	Age-standardized rate per 100 000 (95% CI)
Mortality prevalence change	Bikbov et al., 2020 [3]	-25.8% (-31.8 to -18.7)	-1.7% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Heart failure prevalence	Villain et al., 2020 [27]	13.1% (CKD population)	4712 per 100 000 (diagnosed patients with CKD)	CKD-REIN is a clinic-based, prospective cohort study of 3033 patients with CKD stages 3–4 receiving nephrologist-led care in France
Myocardial infarction prevalence	Villain et al., 2020 [27]	24.5% (CKD population)	3626 per 100 000 (diagnosed patients with CKD)	Prevalence of coronary artery disease, defined as a history of angina, myocardial infarction, coronary angioplasty, or bypass. This value will be much higher than predicted for myocardial infarction alone
Stroke prevalence	Villain et al., 2020 [27]	10.0% (CKD population)	6019 per 100 000 (diagnosed patients with CKD)	History of ischaemic stroke or a transient ischaemic attack
Germany				
CKD prevalence	Bikbov et al., 2020 [3]	5687 per 100 000	12 709 per 100 000	Age-standardized rate in 2017
	Brück et al., 2016 [28]	17.3% (16.5–18.1)		A study that investigated the prevalence of CKD stages 1–5 (95% CI) in northeast Germany
CKD prevalence change	Bommer 2002 [29]	5.4%	2.8% (2022–2027)	1995–2000
Mortality prevalence	Bikbov et al., 2020 [3]	11.3 per 100 000 (10.2–12.4)	112 per 100 000 (diagnosed patients with CKD)	Age-standardized rate in 2017 (95% CI)
Mortality prevalence change	Bikbov et al., 2020 [3]	45.0% (30.3–61.3%)	-12.7% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Heart failure prevalence	Beck et al., 2015 [30]	24–59% (CKD population)	1459 per 100 000 (diagnosed patients with CKD)	Observational prospective study with 5015 patients with CKD aged 18–74 years. Heart failure prevalence ranged from 24% in those with eGFR >90 mL/min/1.73m ² and 59% in those with eGFR <30 mL/min/1.73m ²
Myocardial infarction prevalence	Gößwald et al., 2013 [31]	1.5–10.2% (total population)	499 per 100 000 (diagnosed patients with CKD)	Results of the German Health Interview and Examination Survey for Adults (DEGS1) showed that the lifetime

				prevalence of myocardial infarction ranged from 1.5% in adults aged 40–49 years to 10.2% in adults aged 70–79 years. Sample size: 5389
Stroke prevalence (total population)	Stroke Alliance for Europe 2017 [32]	526 774 (of total population)	1035 per 100 000 (diagnosed patients with CKD)	
Greece				
CKD prevalence	Bikbov et al., 2020 [3]	5.34% (4.96–5.81)	11.6% of national population	Age-standardized prevalence (%), 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	–5.3% (–9.1 to –1.1)	5.9% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	12.0 (11.2–12.9)	281 per 100 000 (diagnosed patients with CKD)	Age-standardized rate per 100 000 (95% CI)
Mortality prevalence change	Bikbov et al., 2020 [3]	–30.0% (–35.3 to –24.1)	–12.5% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Heart failure prevalence	Calculated from Loutradis et al., 2015 [33]	17.2% (CKD population)	13 769 per 100 000 (diagnosed patients with CKD)	
Myocardial infarction prevalence		34.2% (CKD population)	12 484 per 100 000 (diagnosed patients with CKD)	
Stroke prevalence		4.7% (CKD population)	8436 per 100 000 (diagnosed patients with CKD)	
Hungary				
CKD prevalence	Bikbov et al., 2020 [3]	8204 per 100 000 (7596–8882)	13 629 per 100 000	Age-standardized prevalence (%), 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	1.0% (–2.4–4.5)	–2.7% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	7.6 per 100 000 (7.2–8.1)	526 per 100 000 (diagnosed patients with CKD)	Age-standardized rate per 100 000 (95% CI)
	NHIFA, Hungarian National Statistics [34]	526.85 per 100 000		Mortality from real-world data analysis compared with the 2019 total national population
Mortality prevalence change	Bikbov et al., 2020 [3]	34.4% (26.2–44.1)	–7.1% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
India				
CKD prevalence	Bikbov et al., 2020 [3]	9529 per 100 000 (8852–10 280)	5456 per 100 000	Age-standardized rate in 2017 (95% CI)
	Singh et al., 2013 [35]	17.2%		In a cohort of 5588, prevalence of CKD stages 1, 2, 3, 4, and 5 was 7%, 4.3%, 4.3%, 0.8%, and 0.8%, respectively
CKD prevalence change	Bikbov et al., 2020 [3]	5.6% (3.3–8.2%)	2.5% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	22.3 per 100 000 (20.6–23.5)	92 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were

				standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	-5.5% (-14.5-2.7%)	-37.7% (2022-2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990-2017 (95% CI)
Heart failure prevalence	Huffman et al., 2010 [36]	0.3-1.75 million cases (total population)	11 446 per 100 000 (diagnosed patients with CKD)	2010
Stroke prevalence	Pandian et al., 2013 [37]	84-262 per 100 000 (rural); 424 per 100 000 (urban) (total population)	5597 per 100 000 (diagnosed patients with CKD)	Estimated adjusted prevalence in 2013
Israel				
CKD prevalence	Bikbov et al., 2020 [3]	6246 per 100 000 (5810-6757)	13 129 per 100 000	Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	0.6% (-2.1-3.3%)	-0.4% (2022-2027)	Change in age-standardized rates, 1990-2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	17.7 per 100 000 (16.5-19.0)	228 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	-20.9% (-26.6 to -14.2%)	-35.6% (2022-2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990-2017 (95% CI)
Heart failure prevalence	Ministry of Health Report 2013 [38]	1-2% (total population)	3340 per 100 000 (diagnosed patients with CKD)	Local-language document
Stroke prevalence	Stroke Alliance for Europe [39]	26 450 (total population)	3073 per 100 000 (diagnosed patients with CKD)	2017
Italy				
CKD prevalence	Bikbov et al., 2020 [3]	5156 per 100 000 (4792-5602)	6716 per 100 000	Age-standardized rate in 2017 (95% CI)
	De Nicola et al., 2015 [40]	7.05%		2008-2012 National Health Examination Survey in Italy, population aged 35-79 years
CKD prevalence change	Capuano et al., 2012 [41]	5.9-6.2% (male); 3.9-4.5% (female)	10.2% (2022-2027)	1998-2009
	Bikbov et al., 2020 [3]	-9.2% (-12.8 to -6.1%)		Change in age-standardized rates, 1990-2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	7.3 per 100 000 (6.8-7.9)	146 per 100 000 (diagnosed patients with CKD)	Age-standardized rate in 2017 (95% CI)
Mortality prevalence change	Bikbov et al., 2020 [3]	-19.5% (-25.3 to -12.9%)	-5.4% (2022-2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990-2017 (95% CI)
	Navarra et al., 2021 [42]	60% (male); 54% (female)		Over 16 years, 2003-2019
Heart failure prevalence	Barbieri et al., 2020 [43]	12 600 per 100 000 (CKD population)	13 488 per 100 000 (diagnosed patients with CKD)	CKD stages 3a-5
Myocardial infarction prevalence	Giampaoli et al., 2015 [44]	1.6% (male); 0.6% (female) (total population)	11 697 per 100 000 (diagnosed patients with CKD)	Population aged 35-74 years, 2008-2012

Stroke prevalence	Stroke Alliance for Europe 2017 [45]	351 820 (total population)	8884 per 100 000 (diagnosed patients with CKD)	2017
Japan				
CKD prevalence	Bikbov et al., 2020 [3]	8404 per 100 000 (7838–9068)	18 787 per 100 000	Age-standardized rate in 2017 (95% CI)
	Imai et al., 2007 [46]	19.1 million cases		Population aged >18 years, CKD stages 3a–5, in 2004
CKD prevalence change	Nagata et al., 2010 [47]	13.8–22.1% (male); 14.3–15.3% (female)	8.5% (2022–2027)	Population aged ≥40 years, 1974–2002
	Bikbov et al., 2020 [3]	–5.9% (–8.6 to –3.3%)		Change in age-standardized rates, 1990–2017 (95% CI)
	Takeuchi et al., 2021 [48]	14.1 per 100 000		2005–2017
Mortality prevalence	Bikbov et al., 2020 [3]	7.5 per 100 000 (7.1–8.0)	400 per 100 000 (diagnosed patients with CKD)	Age-standardized rate in 2017 (95% CI)
Mortality prevalence change	Bikbov et al., 2020 [3]	–40.3% (–43.0 to –36.3%)	–2.3% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Heart failure prevalence	Tanaka et al., 2017 [49]	2764.7 per 100 000 (CKD population)	20 942 per 100 000 (diagnosed patients with CKD)	Patients with CKD, pre-dialysis
Myocardial infarction prevalence	Ninomiya et al., 2009 [50]	5546.7 per 100 000 (CKD population)	22 700 per 100 000 (diagnosed patients with CKD)	
Mexico				
CKD prevalence	Bikbov et al., 2020 [3]	12 107 per 100 000 (11 292–13 009)	10 927 per 100 000	Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	10.2% (7.7–13.0%)	6.3% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	58.1 per 100 000 (56.4–59.5)	216 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	102.3% (94.4–108.8%)	–31.6% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Netherlands				
CKD prevalence	Bikbov et al., 2020 [3]	6142 per 100 000 (5688–6653)	12 194 per 100 000	Age-standardized rate in 2017 (95% CI)
	Sundström et al., 2022 [51]	8.9%		
CKD prevalence change	Bikbov et al., 2020 [3]	1.3% (–3.1–6.1%)	5.1% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	7.1 per 100 000 (6.7–7.6)	244 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause

Mortality prevalence change	Bikbov et al., 2020 [3]	6.9% (-0.5-15.8%)	-11.8% (2022-2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990-2017 (95% CI)
Heart failure prevalence	Analysis from Sundström et al., 2022 [51]	15.05% (CKD population)	6946 per 100 000 (diagnosed patients with CKD)	
Myocardial infarction prevalence		27.81% (CKD population)	14 495 per 100 000 (diagnosed patients with CKD)	
Stroke prevalence		18.88% (CKD population)	8302 per 100 000 (diagnosed patients with CKD)	
Philippines				
CKD prevalence	Bikbov et al., 2020 [3]	11 049 per 100 000 (10 263-11 879)	5469 per 100 000	Age-standardized rate in 2017 (95% CI)
	Morales et al., 2005 [52]	2.6%		CKD stages 3a-5, National Nutrition Health Survey 2003 renal report
CKD prevalence change	Bikbov et al., 2020 [3]	13.2% (10.2-16.1%)	5.6% (2022-2027)	Change in age-standardized rates, 1990-2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	50.3 per 100 000 (44.5-56.4)	89 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	108.9% (83.0-137.8%)	-21.4% (2022-2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990-2017 (95% CI)
Heart failure prevalence	Tumanan-Mendoza et al., 2017 [53]	1.6% per 100 000 (total population)	13 561 per 100 000 (diagnosed patients with CKD)	Population aged ≥19 years in 2014
Stroke prevalence	Sy et al., 2012 [54]	1.4-1.2% (total population)	9288 per 100 000 (diagnosed patients with CKD)	2003-2008
Poland				
CKD prevalence	Bikbov et al., 2020 [3]	7271 per 100 000 (6702-7943)	10 730 per 100 000	Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	-6.0% (-12.9-0.9)	5.5% (2022-2027)	Change in age-standardized rates, 1990-2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	4.8 per 100 000 (4.5-5.1)	289 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	-50.3% per 100 000 (-53.5-46.2)	-18.9% (2022-2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990-2017 (95% CI)
Heart failure prevalence	Puch-Walczak et al., 2022 [55]	2.4-4.3% (total population)	14 986 per 100 000 (diagnosed patients with CKD)	From 2414 participants of NATPOL 2011, aged 18-79
Stroke prevalence	Stroke Alliance for Europe 2017 [56]	652.3 per 100 000 (total population)	46 260 per 100 000 (diagnosed patients with CKD)	

Romania				
CKD prevalence	Bikbov et al., 2020 [3]	8204 per 100 000 (11 292–13 009)	7015 per 100 000	Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	1.0% (–2.4–4.5%)	20.1% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	7.6 per 100 000 (7.2–8.1)	123 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	34.4% (26.2–44.1%)	20.2% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Saudi Arabia				
CKD prevalence	Bikbov et al., 2020 [3]	9892 per 100 000 (9139–10 812)	12 283 per 100 000	Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	0.1% (–4.0–4.4%)	12.9% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	29.9 per 100 000 (24.2–34.1)	83 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	–2.6% (–21.7–22.7%)	9.2% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Heart failure prevalence	AbuRuz et al., 2015 [57]	455 222 cases (total population)	5700 per 100 000 (diagnosed patients with CKD)	Extrapolated
Stroke prevalence	Memon et al., 2019 [58]	29 per 100 000 (total population)	1792 per 100 000 (diagnosed patients with CKD)	Although there is a lack of data on the prevalence of stroke in Saudi Arabia, a study conducted by the Ministry of Health reported 29 per 100 000 per year
Singapore				
CKD prevalence	Bikbov et al., 2020 [3]	9333 per 100 000 (8659–10 090)	15 892 per 100 000	Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	–8.8% (–10.9 to –6.6%)	8.3% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
	Wong et al., 2018 [59]	12.2–24.3%		2007–2035, using a Markov model
Mortality prevalence	Bikbov et al., 2020 [3]	9.0 per 100 000 (8.4–9.7)	143 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause

Mortality prevalence change	Bikbov et al., 2020 [3]	-36.7% (-41.5 to -31.4%)	-4.5% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Heart failure prevalence	Picco et al., 2016 [60]	2.8% (CKD population)	5424 per 100 000 (diagnosed patients with CKD)	Data analysed from the Singapore Mental Health Study (2009–2010). Sample size: 6616
Stroke prevalence	Teh et al., 2018 [61]	7.6% (CKD population)	5550 per 100 000 (diagnosed patients with CKD)	Data from the Well-being of the Singapore Elderly study, a cross-sectional epidemiological survey conducted 2012–2013
South Korea				
CKD prevalence	Bikbov et al., 2020 [3]	7103 per 100 000 (6560–7659)	10 808 per 100 000	Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Lee et al., 2020 [62]	57.8–157.1 per 100 000	19.6% (2022–2027)	Kidney failure. Based on a retrospective population-based cohort study using the National Health Insurance Service–National Sample Cohort; 2006–2015
	Bikbov et al., 2020 [3]	-9.2% (-14.5 to -5.6%)		
Mortality prevalence	Bikbov et al., 2020 [3]	7.7 per 100 000 (7.1–8.2)	71 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	-40.6% (-45.8 to -35.1%)	39.1% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Stroke prevalence	Korean Stroke Society 2018 [63]	1.71% (total population)	7105 per 100 000 (diagnosed patients with CKD)	Population aged ≥19 years
Spain				
CKD prevalence	Gorostidi et al., 2018 [64]	15.1%	10 729 per 100 000	Population aged ≥18 years, 2008–2010
	Otero González et al., 2010 [65]	6.83%		Population aged ≥20 years
CKD prevalence change	Bikbov et al., 2020 [3]	-5.9% (-10.3 to -1.6%)	9.1% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	8.0 per 100 000 (7.5–8.6)	242 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	-32.3% (-37.5 to -26.5%)	10.4% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates 1990–2017 (95% CI)
Heart failure prevalence	Martínez-Castelao et al., 2011 [66]	17 500 per 100 000 (CKD population)	11 403 per 100 000 (diagnosed patients with CKD)	Population aged 19–94 years

Myocardial infarction prevalence	Martínez-Castelao et al., 2011 [66]	11 100 per 100 000 (CKD population)	5270 per 100 000 (diagnosed patients with CKD)	Population aged 19–94 years
Stroke prevalence	Stroke Alliance for Europe 2017 [67]	357.3 per 100 000 in total population	4709 per 100 000 (diagnosed patients with CKD)	2017
Sweden				
CKD prevalence	CELOSIA. 2016 [data on file]	5437 per 100 000	9258 per 100 000	Age-standardized rate in 2017 (95% CI)
	CELOSIA. 2017 [data on file]	5762 per 100 000		
	Bikbov et al., 2020 [3]	6839 per 100 000 (6362–7400)		
	CELOSIA. 2018 [data on file]	6154 per 100 000		
	CELOSIA. 2019 [data on file]	6220 per 100 000		
	CELOSIA. 2020 [data on file]	6209 per 100 000		
CKD prevalence change	Bikbov et al., 2020 [3]	3.0% (0.3–5.7%)	1.5% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	5.7 per 100 000 (5.3–6.1)	202 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	57.5% (46.9–68.8%)	–18.9% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Heart failure prevalence	Lindmark et al., 2019 [68]	2.18% (total population)	11 887 per 100 000 (diagnosed patients with CKD)	Electronic medical records 2014. Primary and secondary care patients from Uppsala and Västerbotten
Stroke prevalence	Sweden stroke statistics 2022 [69]	340 per 100 000 (total population)	8356 per 100 000 (diagnosed patients with CKD)	2020
Taiwan				
CKD prevalence	Bikbov et al., 2020 [3]	8145 per 100 000 (7557–8770)	10 620 per 100 000	Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Tsai et al., 2007 [70]	1.99–9.83%	17.1% (2022–2027)	Prospective cohort study of 106 094 individuals aged ≥20 years, 1996–2003
	Bikbov et al., 2020 [3]	–4.9% (–8.0 to –1.7%)		Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	17.4 per 100 000 (6.3–18.5)	90 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	–15.5% (–1.9 to –8.8%)	28.8% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)

Heart failure prevalence	Lee et al., 2018 [71]	0.6% (CKD population)	10 648 per 100 000 (diagnosed patients with CKD)	The prevalence of heart failure in CKD was 0.4% for stage 3, 1.1% for stage 4, and 0.6% for stage 5. Sample: 1463 patients with CKD stages 3–5, ≥18 years of age
Stroke prevalence	Huang et al., 1997 [72]	595 per 100 000 (total population)	2858 per 100 000 (diagnosed patients with CKD)	11 925 individuals were interviewed, and 71 of them had experienced stroke. The crude point prevalence was 5.95 per 1000
Thailand				
CKD prevalence	Bikbov et al., 2020 [3]	10 292 per 100 000 (9461–11 174)	17 465 per 100 000	Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	–3.9% (–7.2 to –0.3%)	8.4% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	23.3 per 100 000 (20.5–25.9)	203 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	–12.6% (–23.6 to –0.7%)	14.0% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Heart failure prevalence	Reyes et al., 2016 [73]	0.4% (total population)	5757 per 100 000 (diagnosed patients with CKD)	
Myocardial infarction prevalence	Sakboonyarat et al., 2018 [74]	3.54% (total population)	16 061 per 100 000 (diagnosed patients with CKD)	Patients with diabetes (25 902 patients; >18 years, enrolled 2012–2013)
Stroke prevalence	Suwanwela 2014 [75]	1.88% (total population)	6778 per 100 000 (diagnosed patients with CKD)	Based on the Thai Epidemiological Stroke Study. Population aged ≥45 years
Türkiye				
CKD prevalence	Bikbov et al., 2020 [3]	10 311 per 100 000 (9532–11 248)	11 742 per 100 000	Age-standardized rate in 2017 (95% CI)
	Süleymanlar et al., 2011 [76]	15.7%		Percentage prevalence, 2011
CKD prevalence change	Bikbov et al., 2020 [3]	–2.5% (–7.4–2.6%)	4.5% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	17.8 per 100 000 (15.8–19.7)	188 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	–32.0% (–40.4 to –21.7%)	–25.1% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Heart failure prevalence	Değertekin et al., 2012 [77]	2.9% (total population)	5672 per 100 000 (diagnosed patients with CKD)	4650 randomly selected individuals, aged ≥35 years

Myocardial infarction prevalence	Kılıç et al., 2020 [78]	6.7% (total population)	2208 per 100 000 (diagnosed patients with CKD)	Patients diagnosed with myocardial infarction in 2018. Sample size: 1793
Stroke prevalence	Börü et al., 2018 [79]	1.7% (total population)	2408 per 100 000 (diagnosed patients with CKD)	Population aged ≥ 18 years, 2013. Sample size: 3320
UAE				
CKD prevalence	Xie et al., 2018 [80]	3397 per 100 000 (9532–11 248)	11 345 per 100 000	Prevalence of CKD per 100 000, 2016 (95% CI)
	Bikbov et al., 2020 [3]	9951 per 100 000 (9198–10 828)		Age-standardized rate in 2017 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	-4.0% (-7.7–0.1%)	13.7% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
Mortality prevalence	Bikbov et al., 2020 [3]	30.8 per 100 000 (25.3–36.7)	55 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	3.0% (-18.1–29.0%)	41.0% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
UK				
CKD prevalence	Bikbov et al., 2020 [3]	5167 per 100 000 (4819–5589)	13 377 per 100 000	Age-standardized rates in 2017 (95% CI)
	Public Health England 2014 [81]	2.6 million cases (2.3–3.0 million)		Living with CKD stages 3–5 (95% CI) (diagnosed and undiagnosed)
CKD prevalence change	Bikbov et al., 2020 [3]	-11.4% (-13.7 to -8.9%)	-0.7% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
	Public Health England 2014 [81]	8.3%		CKD stages 3–5, aged ≥ 16 years, 2011–2036
	Hounkpatin et al., 2020 [82]	12.6% (2009)–13.9% (2016)		17 663 pooled individuals (aged ≥ 16) in the Health Survey for England 2003, 2009/2010 combined and 2016
Mortality prevalence	Bikbov et al., 2020 [3]	4.5 per 100 000 (4.4–4.6)	320 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	-14.5% (-16.3 to -12.6%)	-18.4% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017 (95% CI)
Heart failure prevalence	British Heart Foundation [83]	>1% depending on age (total population)	5080 per 100 000 (diagnosed patients with CKD)	Prevalence increased with age, with approximately 1% of people aged ≤ 65 years affected. This increased to 6–7% for those aged 75–84 years, and 12–22% for those aged ≥ 85 years

Myocardial infarction prevalence	Jayaraj et al., 2018 [84]	915 000 cases (total population)	4493 per 100 000 (diagnosed patients with CKD)	Self-reported national survey, 2014
Stroke prevalence	Health Survey for England 2018 [85]	2% (aged 45–54 years); 9% (aged ≥75 years) (total population)	8478 per 100 000 (diagnosed patients with CKD)	2017
USA				
CKD prevalence	Bikbov et al., 2020 [3]	8144 per 100 000 (7615–8783)	14 892 per 100 000	Age-standardized rate in 2017 (95% CI)
	United States Renal Data System 2018 [86]	14.8% per 100 000 (13.6–16.0%)		Among National Health and Nutrition Examination Survey participants aged ≥20 years, 2011–2014 (95% CI)
CKD prevalence change	Bikbov et al., 2020 [3]	100 per 100 000 (–3.6–8.8%)	1.4% (2022–2027)	Change in age-standardized rates, 1990–2017 (95% CI)
	National Institute of Diabetes and Digestive and Kidney Diseases 2015 [87]	2000 per 100 000		CKD increased from 12.0–14.0% between 1988 and 1994, and from 1999 to 2004, but has remained stable since 2004. The largest increase occurred in people with CKD stage 3, from 4.5–6.0%, since 1988
Mortality prevalence	Bikbov et al., 2020 [3]	14.6 per 100 000 (14.3–14.9)	237 per 100 000 (diagnosed patients with CKD)	Age-standardized rate (95% CI). Vital registration and verbal autopsy data were used to model mortality due to CKD. Data were standardized and mapped when each death was assigned to a single underlying cause
Mortality prevalence change	Bikbov et al., 2020 [3]	63 000 per 100 000	–7.7% (2022–2027 in diagnosed patients with CKD)	Change in age-standardized rates, 1990–2017
	Bowe et al., 2018 [88]	58%		2002–2016
Heart failure prevalence	Cheung et al., 2004 [89]	40 000 per 100 000 (kidney failure population)	13 315 per 100 000 (diagnosed patients with CKD)	40% of 1846 patients undergoing haemodialysis, 1995–2000
	Komanduri et al., 2017 [90]	>5.8 million cases (total population)		
Myocardial infarction prevalence	Bradley et al., 2019 [91]	427 per 100 000 (total population)	6527 per 100 000 (diagnosed patients with CKD)	Cohort study of 1.3 million patients hospitalized in US Veterans' Health Administration facilities, 2007–2007
Stroke prevalence	Benjamin et al., 2018 [92]	2.7% (1.9–4.3%) (total population)	13 148 per 100 000 (diagnosed patients with CKD)	Incidence of stroke ranges from 1.9% in Minnesota to 4.3% in Alabama

CI=confidence interval. CKD=chronic kidney disease. eGFR=estimated glomerular filtration rate. NATPOL=A National, Cross-sectional Observational study conducted in Poland. NHIFA=National Health Insurance Fund Administration. REIN=Renal Epidemiology and Information Network. WHO=World Health Organization.

Table S4: Baseline percentage of drivers of CKD, and country/region income categories in 2022

Country/region	Population aged ≥ 65 (%)	Hypertension (%)	Coronary heart disease (%)	Stroke (%)	Diabetes (%)	Smoking (%)	Obesity (%)	Income category
Americas								
Brazil	9.6	23.3	1.9	1.4	10.1	16.5	22.1	Middle
Canada	18.1	13.2	3.3	1.8	8.4	17.5	29.4	High
Colombia	9.1	19.2	2.1	1.0	9.8	7.9	22.3	Middle
Mexico	7.6	19.7	2.0	1.1	15.6	13.9	28.9	Middle
USA	16.6	12.9	2.9	2.3	9.4	25.1	36.2	High
Europe								
Belgium	19.3	17.5	3.8	1.3	4.8	25.0	22.1	High
Denmark	20.2	20.6	3.6	1.3	5.6	18.6	19.7	High
France	20.8	22.0	3.4	1.2	5.4	34.6	21.6	High
Germany	21.7	19.9	4.5	1.6	5.3	28.0	22.3	High
Greece	22.3	19.1	3.7	1.6	5.1	39.1	24.9	High
Hungary	20.2	30.0	6.9	2.3	6.0	30.6	26.4	High
Italy	23.3	21.2	4.7	1.3	5.1	23.4	19.9	High
Netherlands	20.0	18.7	4.6	1.3	5.3	23.4	20.4	High
Poland	18.7	28.7	4.1	1.7	9.0	26.0	23.1	High
Romania	19.2	30.6	5.8	2.4	7.7	25.5	22.5	Middle
Spain	20.0	19.2	3.5	1.3	6.3	27.9	23.8	High
Sweden	20.3	19.3	3.8	1.8	4.2	28.8	20.6	High
Türkiye	9.0	20.3	3.6	1.4	7.9	29.3	32.1	Middle
UK	18.7	15.2	3.1	1.1	5.2	19.2	27.8	High
Asia-Pacific/Middle East								
Australia	16.2	15.2	5.3	1.1	6.6	16.2	29.0	High
China	12.0	19.2	3.3	2.1	8.8	24.7	6.2	Middle
India	6.6	25.8	2.8	0.7	9.0	27.0	3.9	Middle
Israel	12.4	16.6	2.2	0.8	7.4	25.5	26.1	High
Japan	28.4	17.6	3.0	3.3	7.7	21.9	4.3	High
Philippines	5.5	22.6	1.7	1.2	9.7	24.3	6.4	Middle
Saudi Arabia	3.5	23.3	2.4	1.4	19.6	16.6	35.4	High
Singapore	13.4	14.6	2.0	1.5	9.5	16.5	6.1	High
South Korea	15.8	11.0	1.6	2.0	7.5	22.0	4.7	High
Taiwan	16.1	25.0	3.7	1.8	8.2	19.4	22.8	High
Thailand	13.0	22.3	2.3	1.7	7.5	22.8	10.0	High
UAE	1.3	21.1	2.2	1.5	18.8	18.2	31.7	High
Mean								
High income	17.4	19.3	3.5	1.6	7.7	23.8	22.1	N/A
Middle income	9.8	22.6	2.9	1.4	9.8	21.1	18.1	N/A

Table S5: Overall prevalence of CKD in 2022 and 2027 expressed as the total number of cases

CKD prevalence – total cases (including KRT)									
Year	Country/region	CKD stage					Total	% change 2022–2027*	
		1	2	3a	3b	4			5
Americas									
2022	Brazil	3 382 458	3 730 243	10 114 500	3 335 817	336 203	45 277	20 944 499	12.5
2027		3 843 453	3 491 389	12 645 280	3 014 572	435 512	126 639	23 556 846	
2022	Canada	1 188 666	919 125	2 146 775	716 166	134 254	17 720	5 122 707	6.4
2027		1 341 739	877 337	2 435 597	650 685	110 591	35 199	5 451 149	
2022	Colombia	898 101	612 521	1 601 180	273 497	49 124	6098	3 440 522	16.9
2027		1 022 697	571 779	2 142 613	227 197	39 934	17 004	4 021 223	
2022	Mexico	5 861 831	4 199 844	2 944 663	956 664	233 149	180 129	14 376 281	11.2
2027		6 797 431	3 705 284	4 314 933	868 726	209 321	89 987	15 985 683	
2022	USA	17 835 056	12 754 591	14 432 472	4 407 547	370 093	58 447	49 858 206	4.2
2027		19 884 476	11 247 883	16 062 028	3 977 608	623 253	171 521	51 966 771	
Europe									
2022	Belgium	347 131	281 795	659 476	257 066	94 542	15 243	1 655 253	0.3
2027		386 204	256 252	732 369	211 885	54 787	19 383	1 660 881	
2022	Denmark	177 810	144 484	353 422	113 087	19 365	2166	810 335	-0.4
2027		200 810	131 127	380 577	79 691	11 074	4107	807 387	
2022	France	2 350 210	1 525 888	2215 308	713 743	213 930	744 85	7 093 565	6.7
2027		2 631 722	1 283 087	2 802 207	590 843	191 843	69 063	7 568 766	
2022	Germany	6 984 518	1 373 921	1 684 581	511 074	94 390	12 145	10 660 629	2.1
2027		6 723 994	1 378 665	2 248 226	436 279	82 330	19 589	10 889 083	
2022	Greece	167 839	204 579	651 662	141 254	26 169	3326	1 194 829	3.2
2027		188 258	179 969	734 772	108 841	15 536	6024	1 233 401	
2022	Hungary	298 411	240 395	571 230	170 340	26 028	2830	1 309 234	-4.3
2027		321 699	206 770	601 055	105 004	12 603	5286	1 252 417	
2022	Italy	1 242 316	772 726	1 485 120	379 249	111 634	56 061	4 047 106	8.9
2027		1 317 372	631 008	1 977 604	363 478	78 897	38 510	4 406 869	
2022	Netherlands	531 041	477 658	803 327	239 544	42 378	4895	2 098 843	6.2
2027		593 339	432 433	993 931	172 299	27 453	8675	2 228 130	
2022	Poland	773 400	960 191	1 724 862	500 306	81 463	9239	4 049 462	4.3
2027		916 412	882 365	2 038 342	325 147	45 193	15 643	4 223 103	
2022	Romania	263 841	232 391	712 736	112 138	12 843	1188	1 335 136	17.3
2027		285 658	179 489	1 000 945	80 289	12 284	7321	1 565 985	
2022	Spain	791 444	872 500	2 705 692	631 210	117 072	17 651	5 135 568	10.6
2027		893 732	783 582	3 234 633	640 025	93 593	33 298	5 678 863	
2022	Sweden	233 764	196 392	358 195	112 621	28 219	16 901	946 092	4.2
2027		270 340	167 666	437 067	79 490	18 123	13 196	985 882	
2022	Türkiye	4 555 662	2 329 183	1 696 844	1 199 880	200 452	64 300	10 046 321	7.0

2027		5 131 344	2 151 851	2 464 412	772 707	190 560	42 668	10 753 542	
2022	UK	2 055 460	1 594 353	3 887 259	1 343 103	249 920	33 011	9 163 106	1.1
2027		2 277 613	1 451 597	4 178 943	1 127 044	179 468	52 407	9 267 073	
Asia-Pacific/Middle East									
2022	Australia	919 290	578 290	633 818	141 386	36 338	15 523	2 324 645	12.1
2027		1 048 919	515 238	847 898	150 768	30 460	12 823	2 606 106	
2022	China	88 782 770	13 966 257	16 982 472	3 070 155	725 812	233 376	123 760 844	1.5
2027		90 928 832	13 292 506	17 982 359	2 973 833	374 547	123 486	125 675 563	
2022	India	49 806 047	9 834 515	11 834 383	3 930 004	673 006	671 075	76 749 030	7.0
2027		54 000 875	9 218 592	15 936 886	2 493 412	383 447	122 190	82 155 403	
2022	Israel	641 816	219 959	200 088	71 511	32 146	5984	1 171 505	7.0
2027		715 533	216 512	243 950	54 732	16 850	5729	1 253 305	
2022	Japan	2 737 632	7 944 141	6 823 351	5 411 187	631 876	45 341	23 593 527	6.1
2027		3 146 006	6 860 559	10 610 404	3 480 895	811 396	118 604	25 027 864	
2022	Philippines	2 119 469	1 045 760	2 422 282	427 649	103 349	34 235	6 152 744	12.3
2027		2 411 704	955 075	2 967 006	483 746	62 990	26 290	6 906 811	
2022	Saudi Arabia	1 481 681	941 397	1 382 497	369 203	121 747	106 321	4 402 846	20.1
2027		1 755 905	925 010	1 866 359	455 998	142 236	141 487	5 286 995	
2022	Singapore	348 517	228 422	290 509	55 905	15 879	5308	944 539	12.3
2027		386 639	229 016	351 054	74 639	13 228	5838	1 060 413	
2022	South Korea	2 356 592	1 450 976	1 326 627	319 296	83 251	11 202	5 547 944	19.5
2027		2 532 936	1 316 288	2 269 665	367 289	113 378	32 891	6 632 448	
2022	Taiwan	1 084 714	657 427	606 602	146 133	37 125	4996	2 536 997	17.7
2027		1 155 246	580 804	1 026 249	161 665	47 940	13 531	2 985 437	
2022	Thailand	1 701 041	2 495 584	6 055 902	1 569 747	272 185	144 565	12 239 024	8.9
2027		1 952 640	2 264 514	6 672 540	1 898 435	350 670	189 518	13 328 317	
2022	UAE (Emirati)	63 171	40 200	56 692	13 071	4997	3933	182 065	23.9
2027		76 516	45 733	80 043	13 566	5847	3961	225 665	
2022	UAE (Expatriate)	357 688	30 190	25 460	3392	469	561	417 760	9.5
2027		373 320	30 923	48 924	3178	830	252	457 427	
CKD prevalence per 100 000 (including KRT)									
Year	Country/region	CKD stage					TOTAL	% change 2022–2027*	
		1	2	3a	3b	4			5
Americas									
2022	Brazil	1571	1732	4697	1549	156	21	9726	9.5
2027		1738	1579	5718	1363	197	57	10 652	
2022	Canada	3096	2394	5592	1866	350	46	13 344	2.3
2027		3359	2197	6098	1629	277	88	13 649	
2022	Colombia	1743	1189	3108	531	95	12	6679	14.6
2027		1947	1088	4079	433	76	32	7655	
2022	Mexico	4456	3192	2238	727	177	137	10 927	6.3
2027		4940	2693	3136	631	152	65	11 617	
2022	USA	5327	3810	4311	1316	111	17	14 892	1.4
2027		5779	3269	4668	1156	181	50	15 102	
Europe									

2022	Belgium	2975	2415	5652	2203	810	131	14 186	-0.9
2027		3268	2168	6198	1793	464	164	14 055	
2022	Denmark	3047	2476	6057	1938	332	37	13 888	-2.2
2027		3379	2207	6404	1341	186	69	13 586	
2022	France	3583	2327	3378	1088	326	114	10 816	5.5
2027		3968	1935	4225	891	289	104	11 412	
2022	Germany	8326	1638	2008	609	113	14	12 709	2.8
2027		8068	1654	2697	523	99	24	13 065	
2022	Greece	1627	1983	6317	1369	254	32	11 582	5.9
2027		1872	1790	7308	1082	155	60	12 267	
2022	Hungary	3106	2502	5946	1773	271	29	13 629	-2.7
2027		3405	2189	6362	1111	133	56	13 256	
2022	Italy	2061	1282	2464	629	185	93	6716	10.2
2027		2212	1060	3321	610	132	65	7400	
2022	Netherlands	3085	2775	4667	1392	246	28	12 194	5.1
2027		3414	2488	5719	991	158	50	12 820	
2022	Poland	2049	2544	4570	1326	216	24	10 730	5.5
2027		2456	2365	5463	871	121	42	11 317	
2022	Romania	1386	1221	3745	589	67	6	7016	20.1
2027		1537	965	5384	432	66	39	8424	
2022	Spain	1653	1823	5653	1319	245	37	10729	9.1
2027		1843	1616	6670	1320	193	69	11 711	
2022	Sweden	2288	1922	3505	1102	276	165	9258	1.5
2027		2578	1599	4167	758	173	126	9400	
2022	Türkiye	5324	2722	1983	1402	234	75	11 742	4.5
2027		5857	2456	2813	882	218	49	12 274	
2022	UK	3001	2328	5675	1961	365	48	13 377	-0.7
2027		3264	2080	5989	1615	257	75	13 282	
Asia-Pacific/Middle East									
2022	Australia	3526	2218	2431	542	139	60	8917	6.6
2027		3827	1880	3094	550	111	47	9509	
2022	China	6129	964	1172	212	50	16	8544	0.6
2027		6220	909	1230	203	26	8	8597	
2022	India	3541	699	841	279	48	48	5456	2.5
2027		3675	627	1085	170	26	8	5591	
2022	Israel	7193	2465	2242	801	360	67	13 129	-0.4
2027		7467	2259	2546	571	176	60	13 079	
2022	Japan	2180	6326	5433	4309	503	36	18 787	8.5
2027		2563	5589	8644	2836	661	97	20 388	
2022	Philippines	1884	929	2153	380	92	30	5469	5.6
2027		2016	798	2480	404	53	22	5773	
2022	Saudi Arabia	4134	2626	3857	1030	340	297	12 283	12.9
2027		4607	2427	4897	1196	373	371	13 871	
2022	Singapore	5864	3843	4888	941	267	89	15 892	8.3
2027		6278	3719	5700	1212	215	95	17 219	
2022	South Korea	4591	2827	2585	622	162	22	10 808	19.6

2027		4938	2566	4425	716	221	64	12 930	
2022	Taiwan	4541	2752	2539	612	155	21	10 620	17.1
2027		4814	2420	4276	674	200	56	12 441	
2022	Thailand	2427	3561	8642	2240	388	206	17 465	8.4
2027		2774	3217	9479	2697	498	269	18 934	
2022	UAE (Emirati)	3937	2505	3533	815	311	245	11 345	13.7
2027		4373	2614	4575	775	334	226	12 898	
2022	UAE (Expatriate)	4391	371	313	42	6	7	5128	6.7
2027		4467	370	585	38	10	3	5473	

CKD=chronic kidney disease. KRT=kidney replacement therapy.

Table S6: KRT prevalence per 100 000 (given for all modalities of treatment) in 2022 and 2027

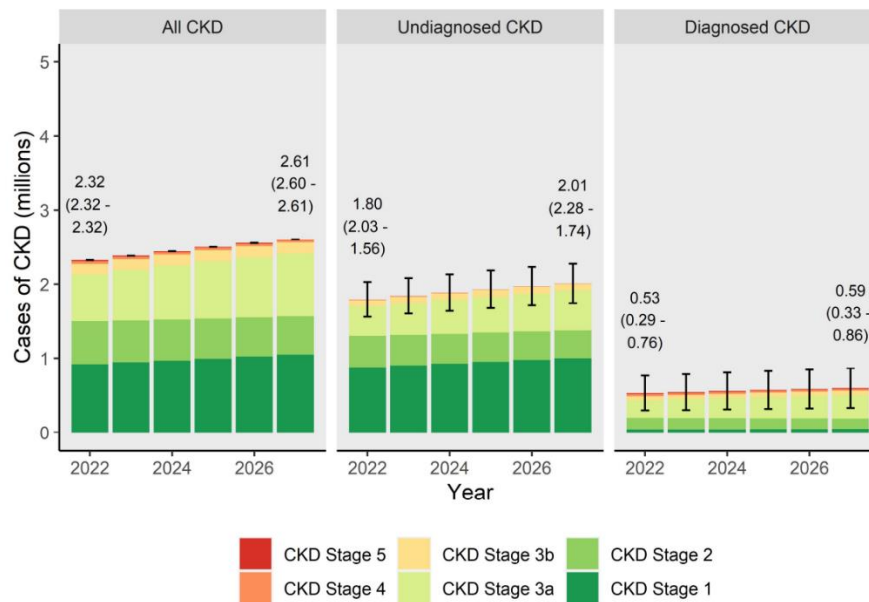
KRT prevalence per 100 000						
Year	Country/region	KRT modality			TOTAL	% change 2022–2027*
		Haemodialysis	Peritoneal dialysis	Kidney transplantation		
Americas						
2022	Brazil	67	5	25	97	22.2
2027		85	8	26	119	
2022	Canada	49	13	50	112	7.5
2027		56	15	49	120	
2022	Colombia	50	18	17	85	12.9
2027		56	22	19	96	
2022	Mexico	68	47	72	187	6.1
2027		80	47	71	198	
2022	USA	153	18	74	245	1.5
2027		155	19	74	248	
Europe						
2022	Belgium	68	5	63	137	10.7
2027		76	6	70	151	
2022	Denmark	37	9	55	101	15.6
2027		45	13	59	117	
2022	France	83	5	67	155	22.3
2027		106	7	77	190	
2022	Germany	75	4	30	108	4.8
2027		79	4	31	114	
2022	Greece	112	6	34	152	15.2
2027		133	7	35	175	
2022	Hungary	79	12	120	211	12.0
2027		84	13	139	236	
2022	Italy	71	9	53	132	5.2
2027		73	10	56	139	
2022	Netherlands	30	6	76	112	5.0
2027		34	8	76	118	
2022	Poland	78	3	34	115	22.3
2027		98	5	38	140	
2022	Romania	74	2	12	88	27.5
2027		90	2	20	112	
2022	Spain	53	7	68	127	13.2
2027		62	9	73	144	
2022	Sweden	30	8	65	104	11.5
2027		33	9	73	116	
2022	Türkiye	69	3	29	102	13.2
2027		82	5	29	116	
2022	UK	38	4	62	104	7.7

2027		44	7	62	112	
Asia-Pacific/Middle East						
2022		45	10	51	106	
2027	Australia	48	11	50	110	3.3
2022		49	5	9	62	
2027	China	51	5	9	65	4.9
2022		14	1	9	24	
2027	India	13	1	9	23	-2.7
2022		70	6	7	84	
2027	Israel	70	6	9	85	1.8
2022		272	8	10	290	
2027	Japan	301	9	12	321	10.6
2022		50	2	1	52	
2027	Philippines	54	2	1	57	8.1
2022		73	7	30	110	
2027	Saudi Arabia	111	13	72	196	77.4
2022		122	21	30	173	
2027	Singapore	143	27	33	203	17.3
2022		180	11	44	236	
2027	South Korea	207	12	49	268	13.8
2022		358	31	16	405	
2027	Taiwan	381	34	17	432	6.6
2022		234	61	14	309	
2027	Thailand	295	75	23	393	27.2
2022		154	12	43	209	
2027	UAE (Emirati)	170	12	67	250	19.6
2022		1	0	0	1	
2027	UAE (Expatriate)	2	0	0	2	75.3

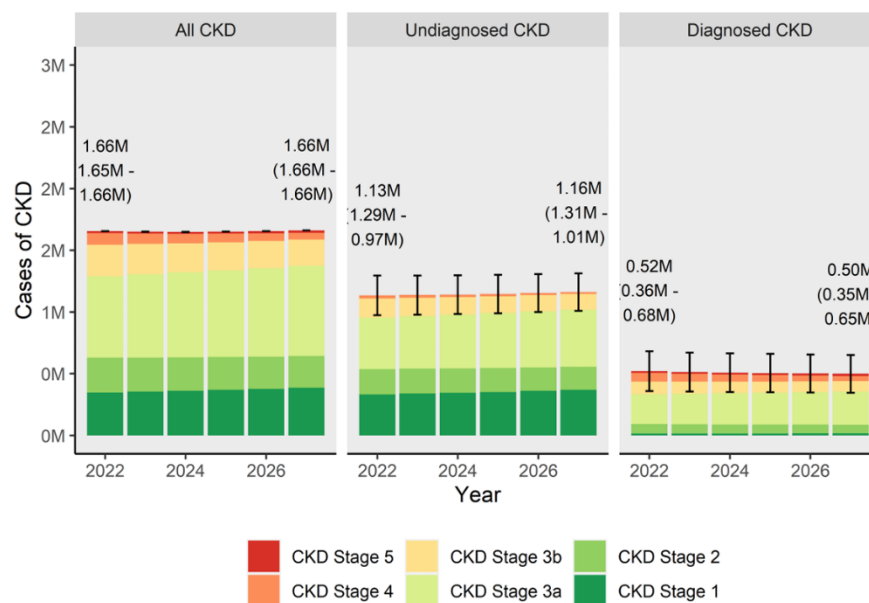
KRT=kidney replacement therapy. Note: individual values have been rounded to whole numbers. Slight discrepancies may occur between the total sum reported as a result.

Supplementary data appendix 1: sensitivity analysis on diagnosis rates

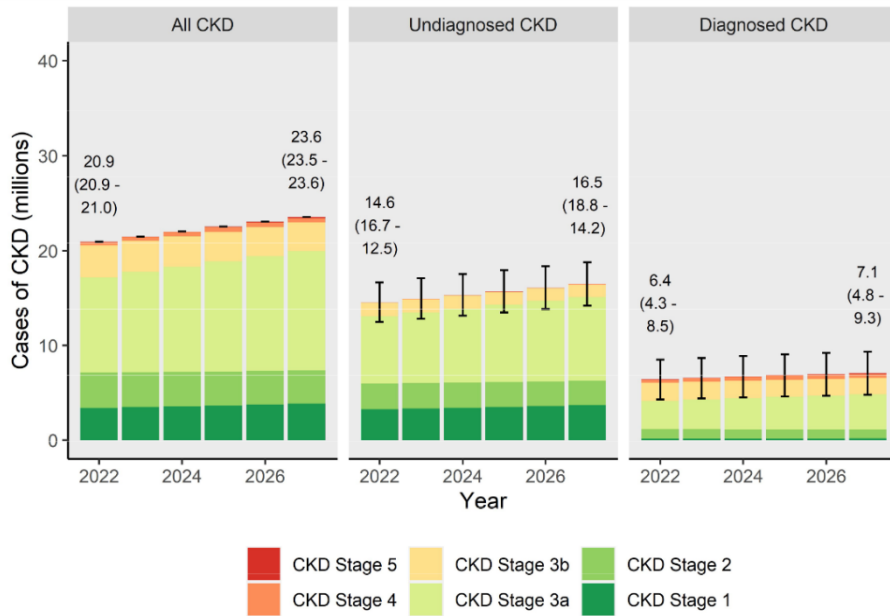
Australia: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



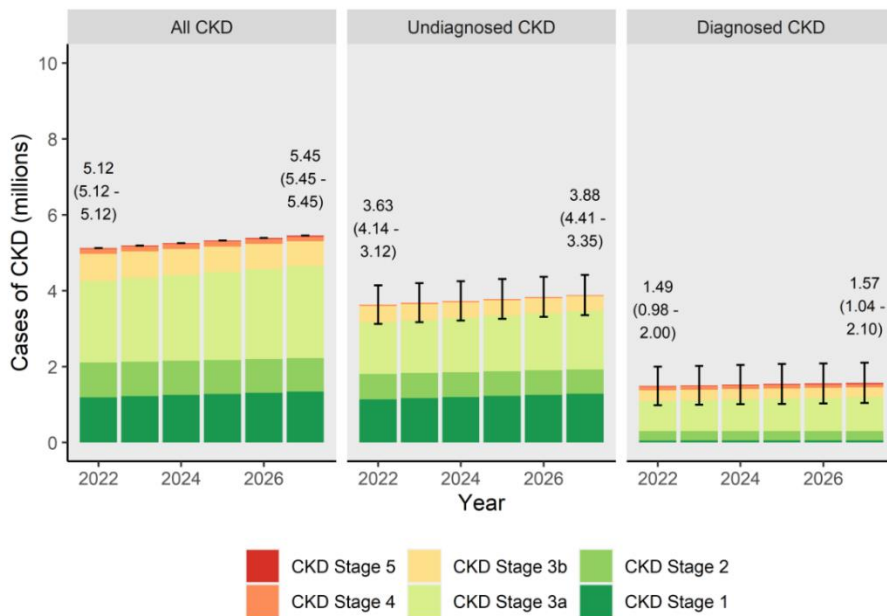
Belgium: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



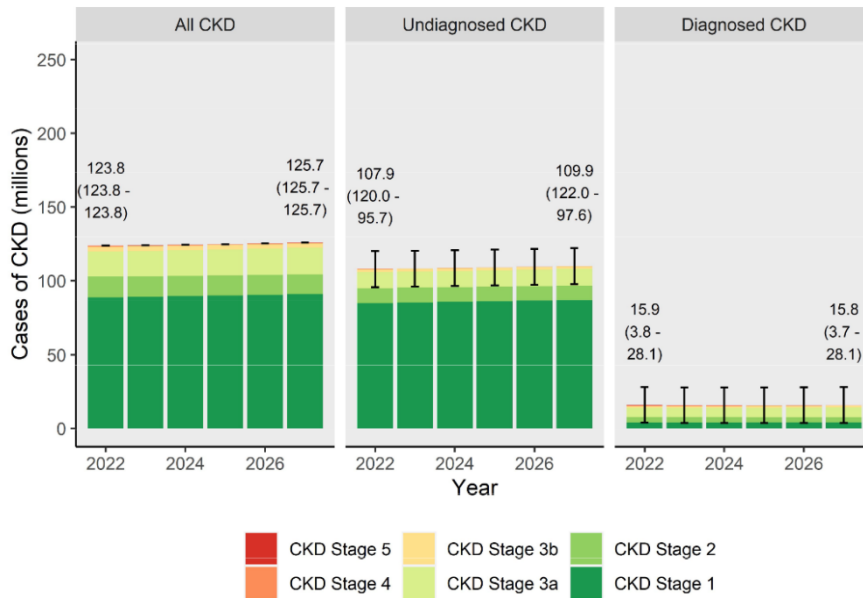
Brazil: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



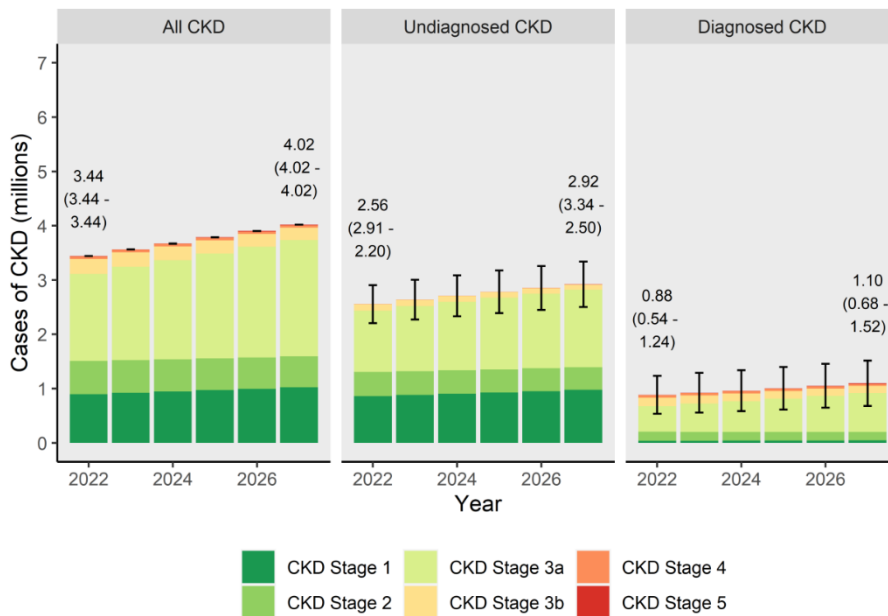
Canada: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



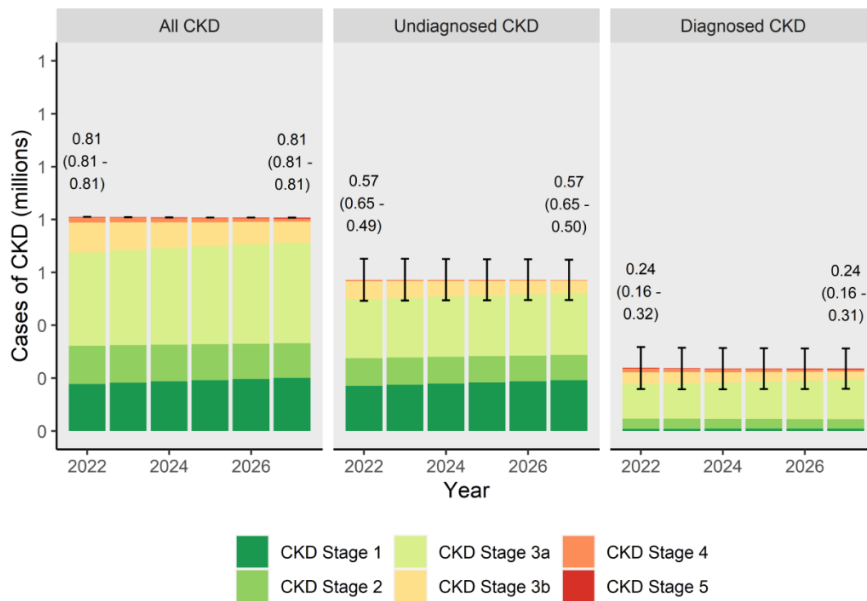
China: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



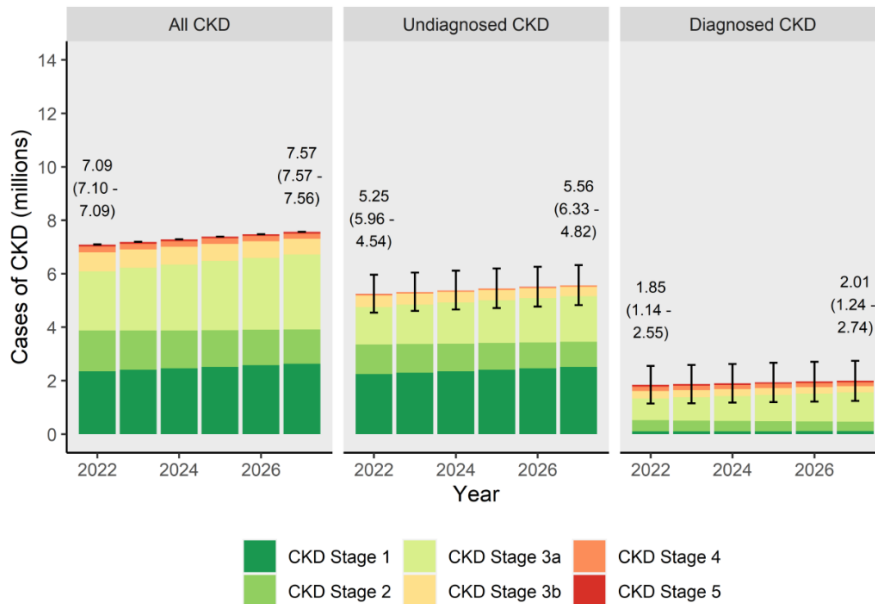
Colombia: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



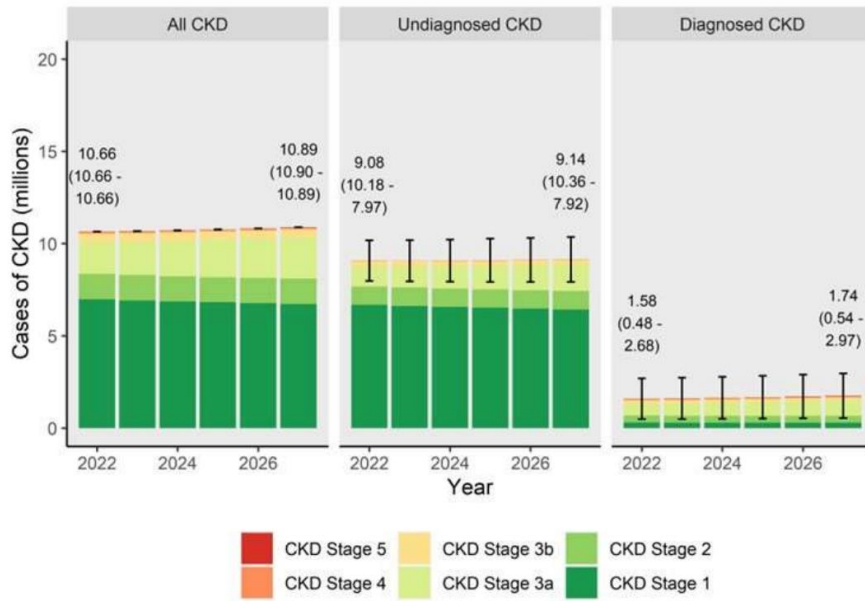
Denmark: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



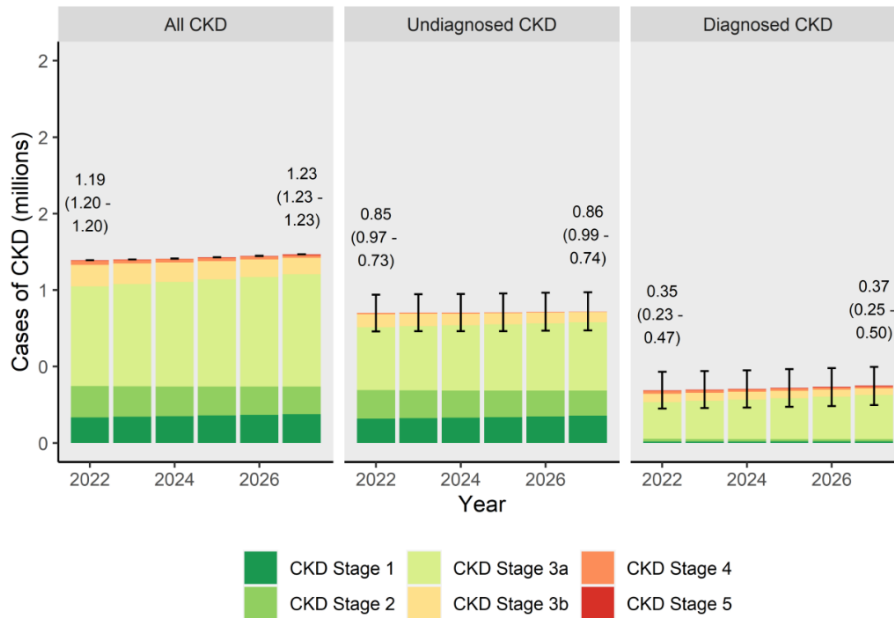
France: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



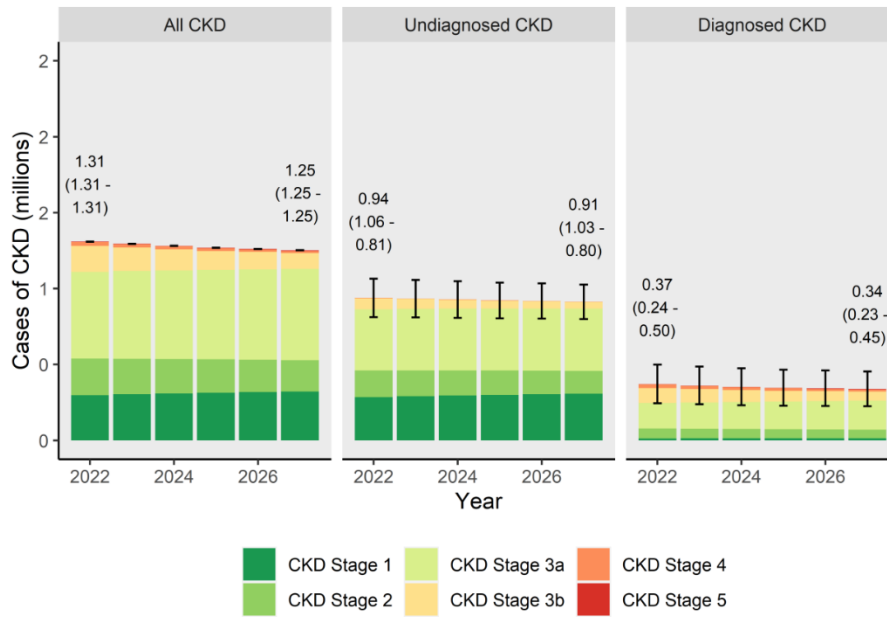
Germany: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



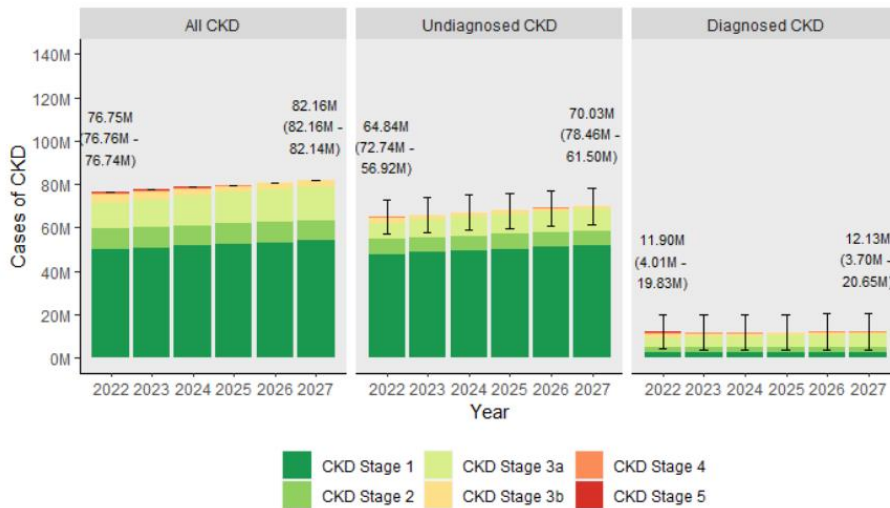
Greece: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



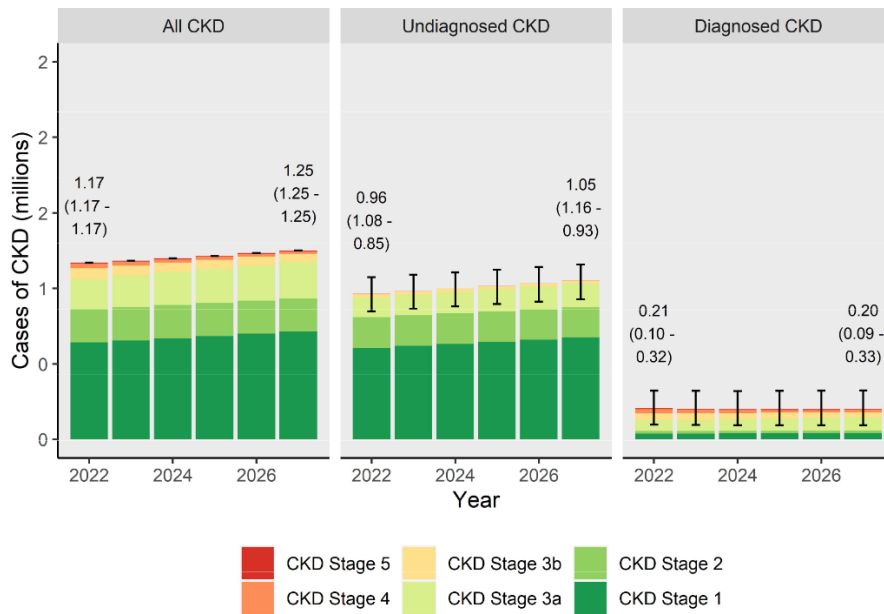
Hungary: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



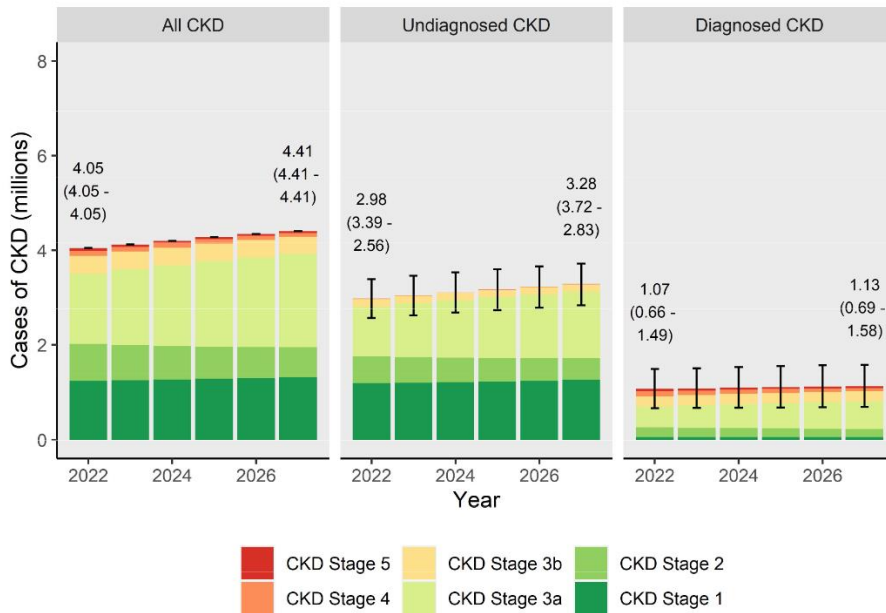
India: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



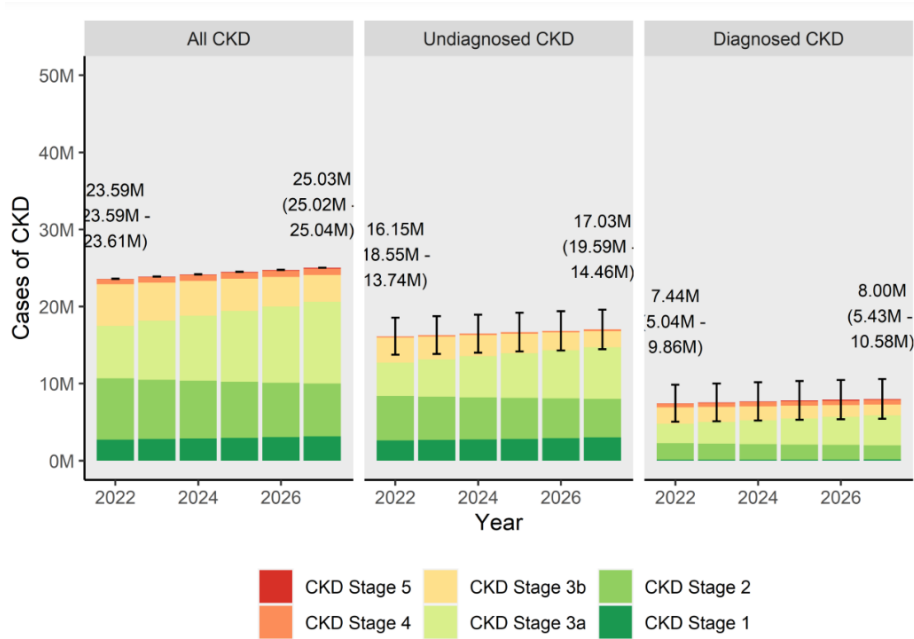
Israel: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



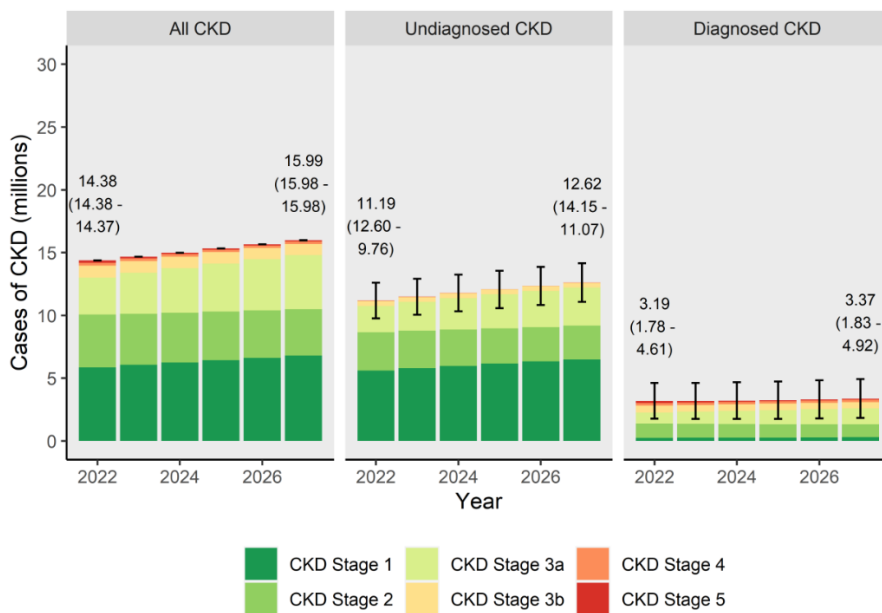
Italy: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



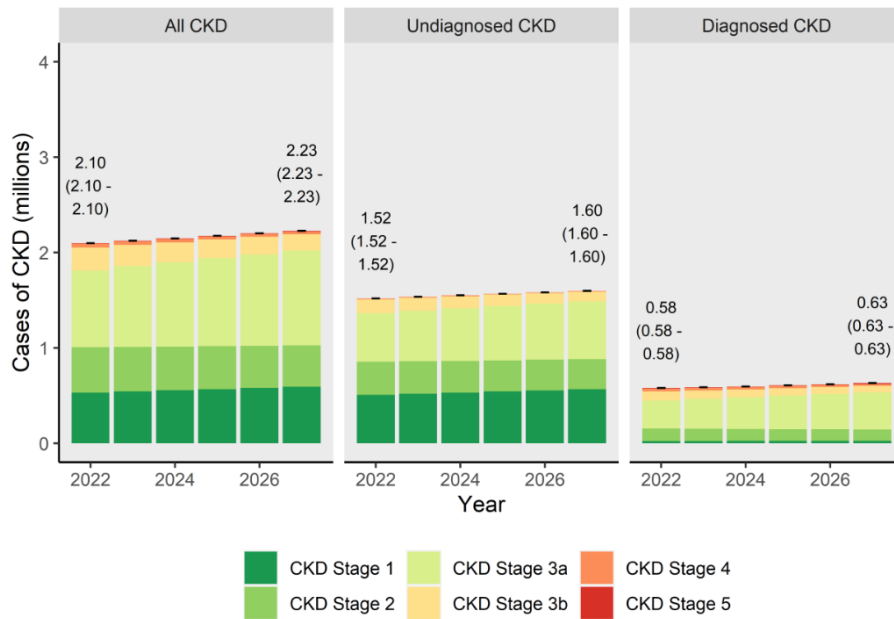
Japan: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



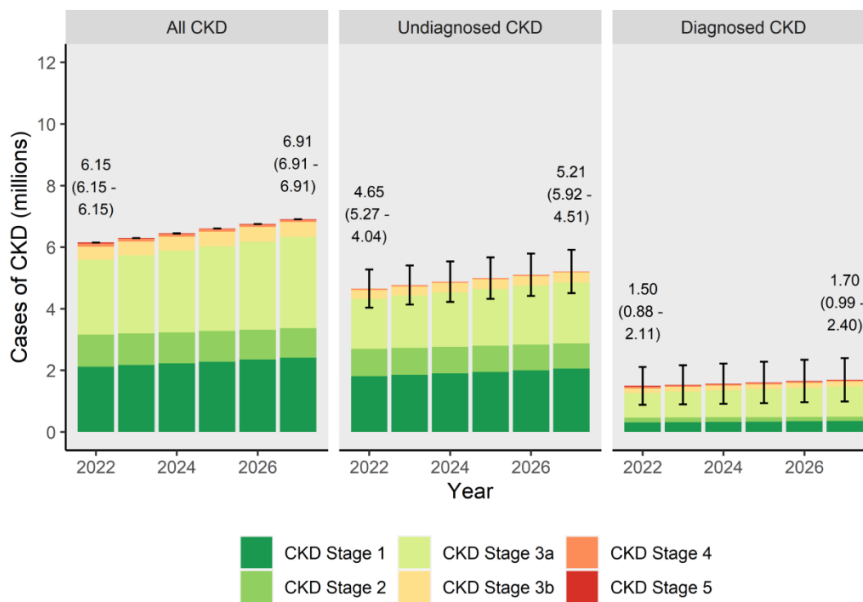
Mexico: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



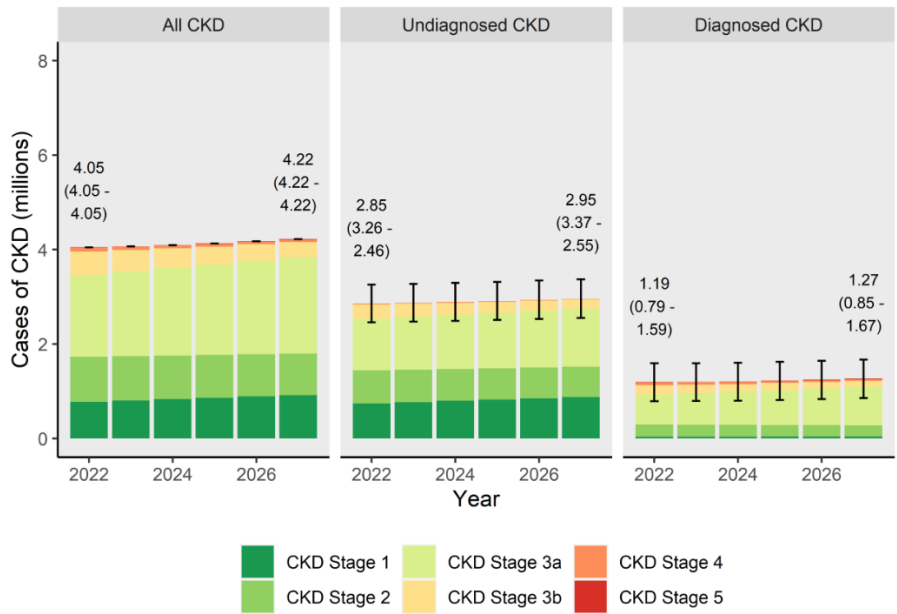
Netherlands: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



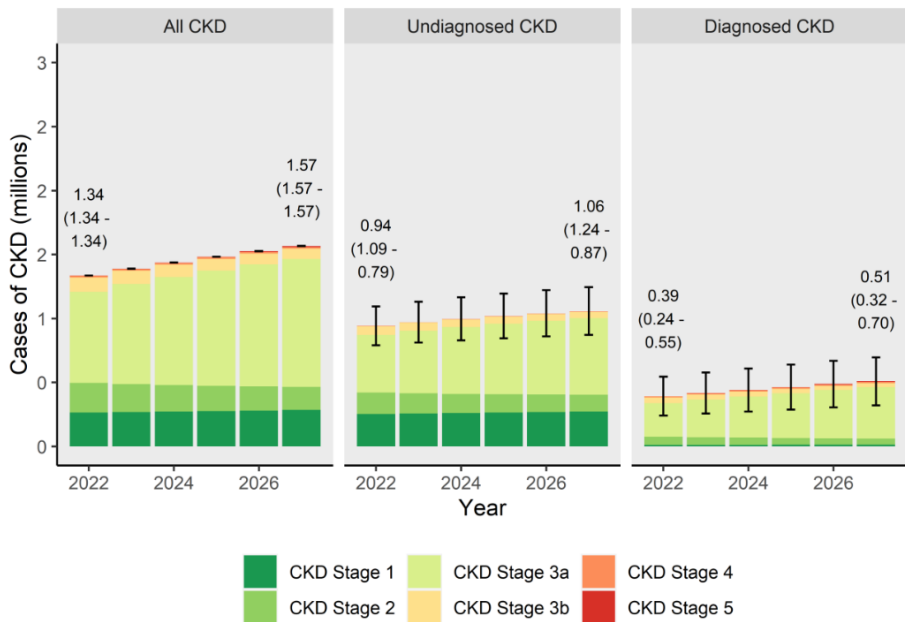
Philippines: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



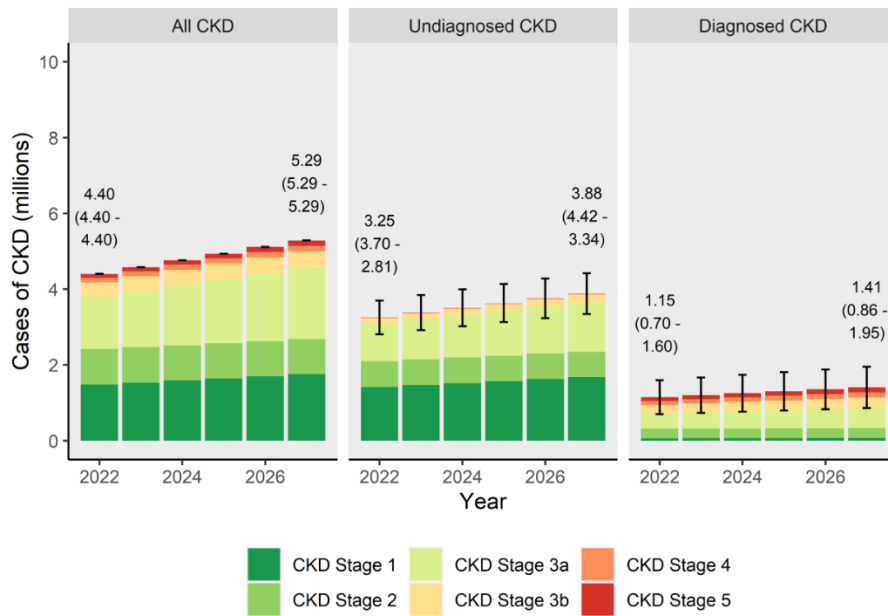
Poland: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



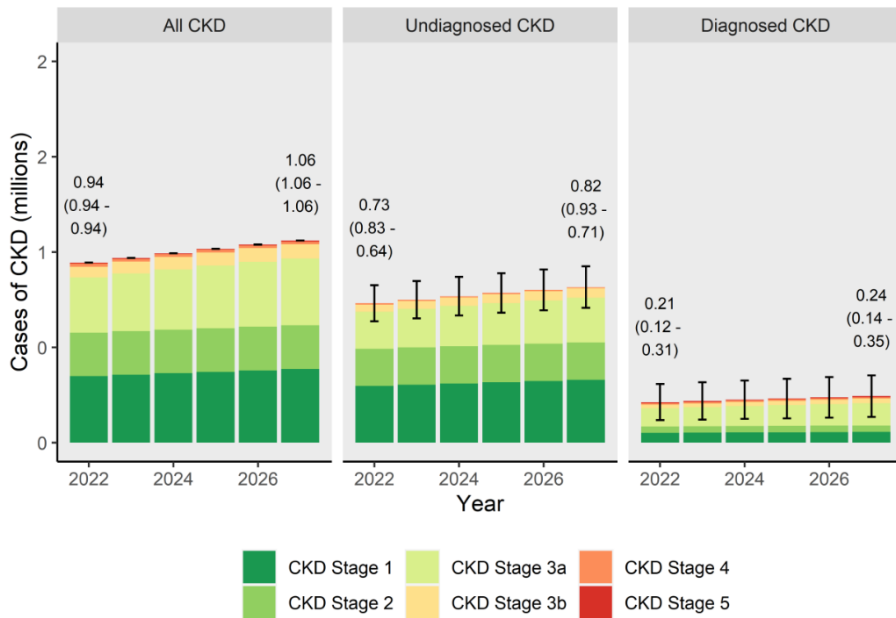
Romania: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



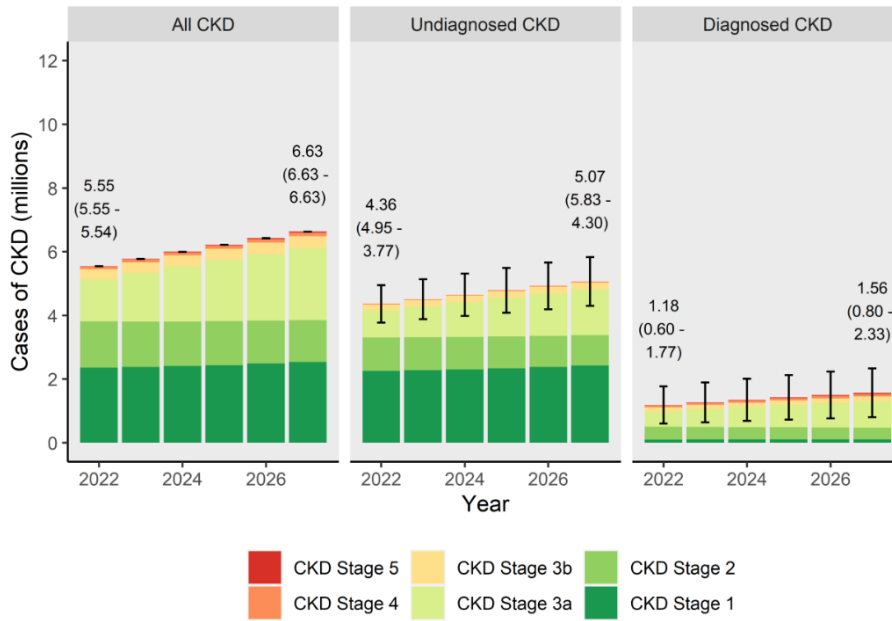
Saudi Arabia: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



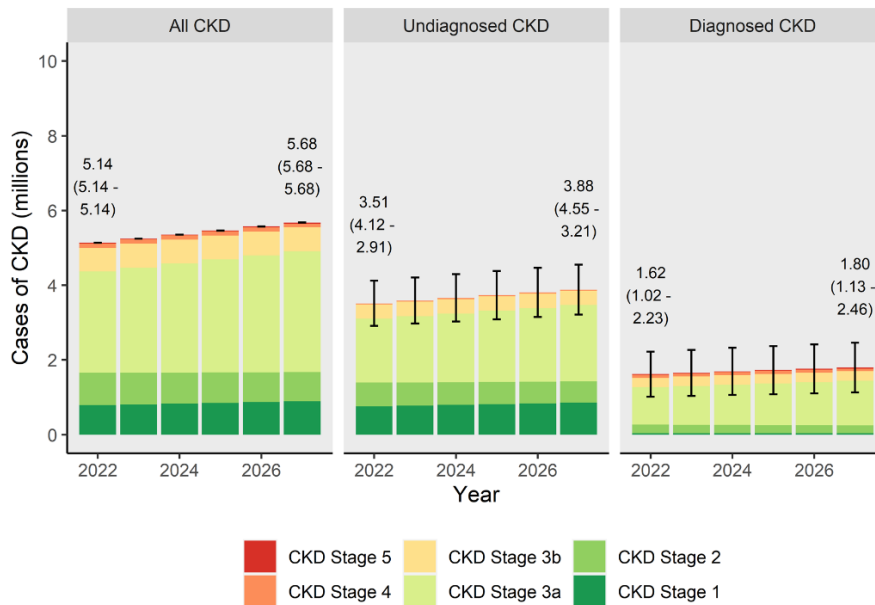
Singapore: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



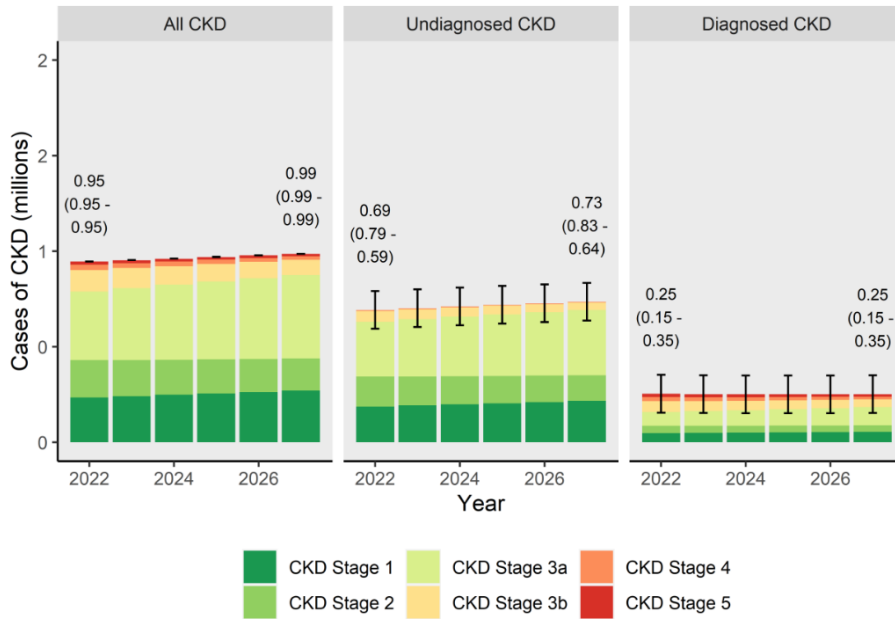
South Korea: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



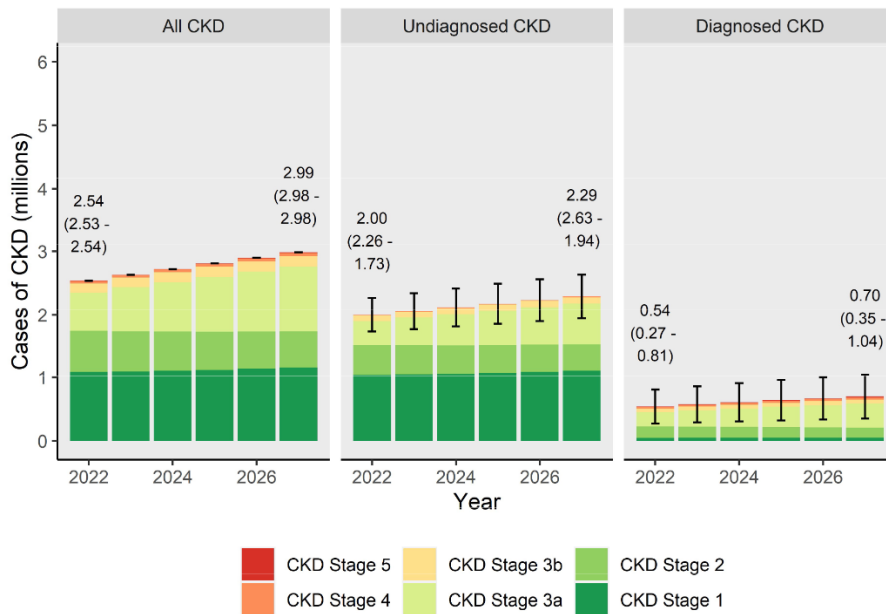
Spain: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



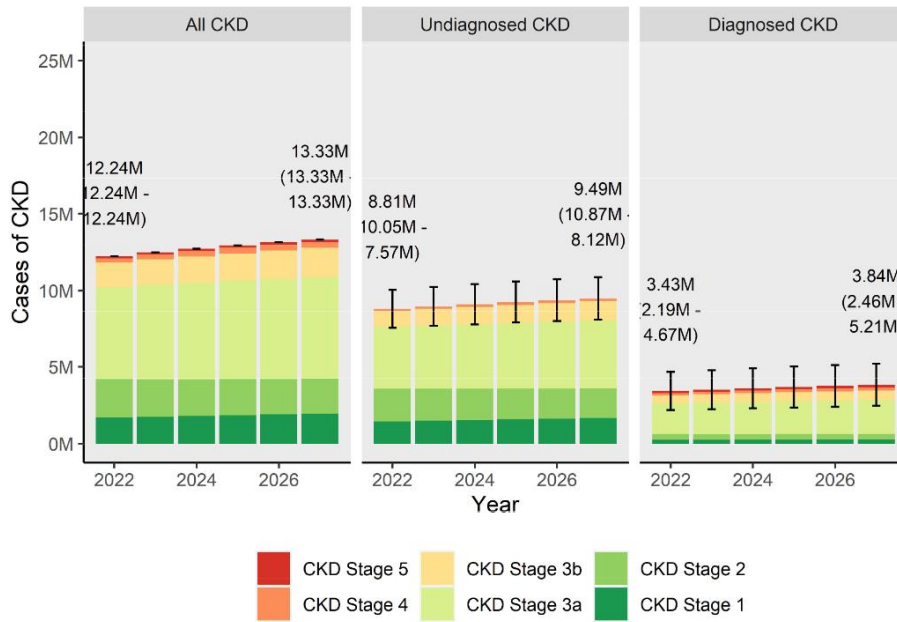
Sweden: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



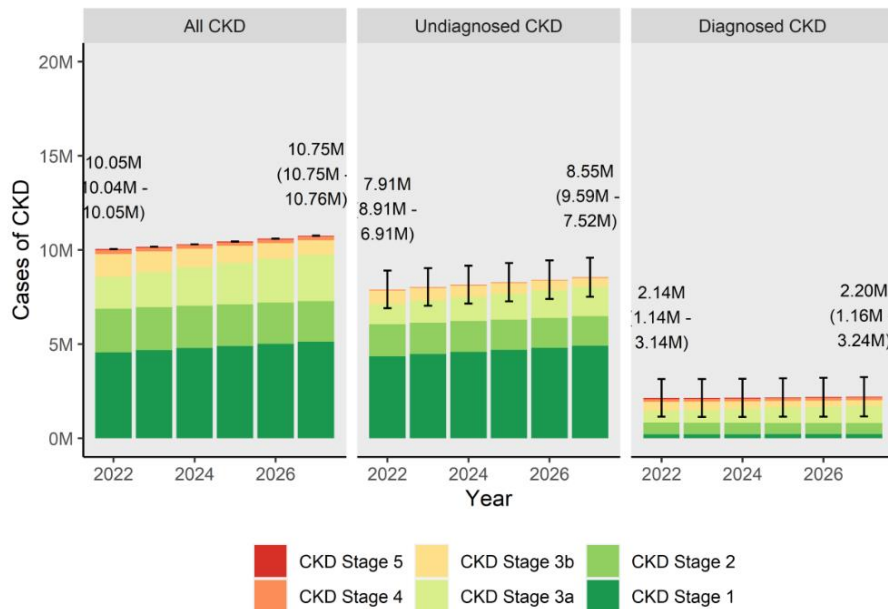
Taiwan: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



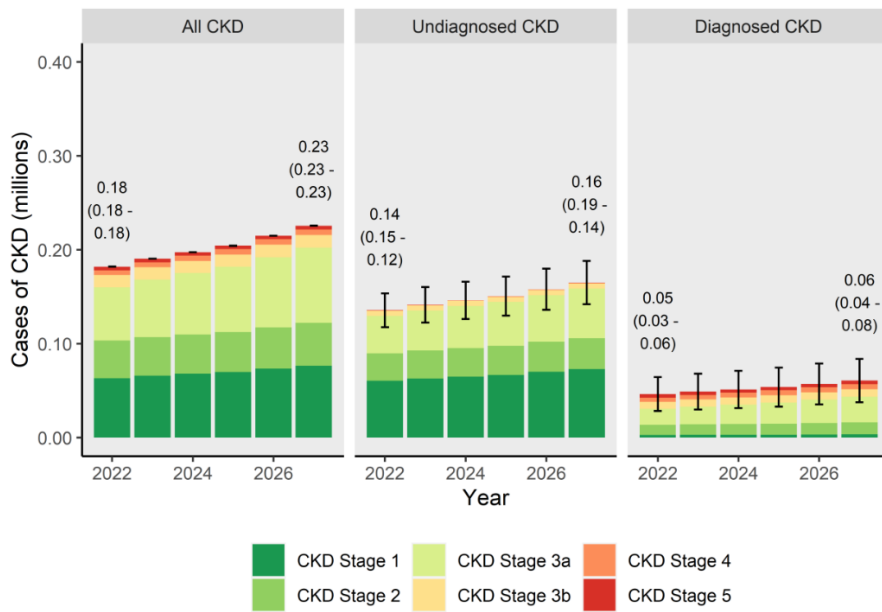
Thailand: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



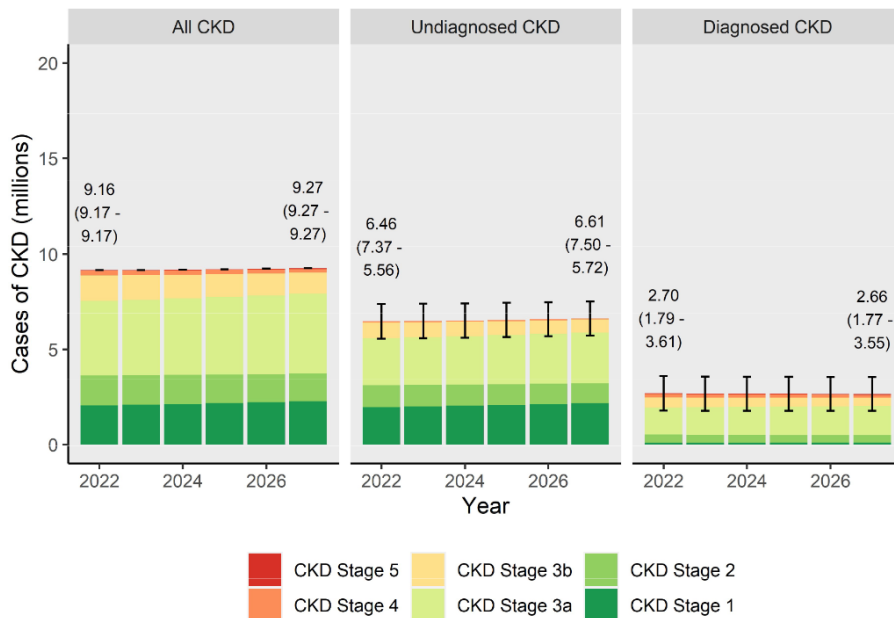
Türkiye: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



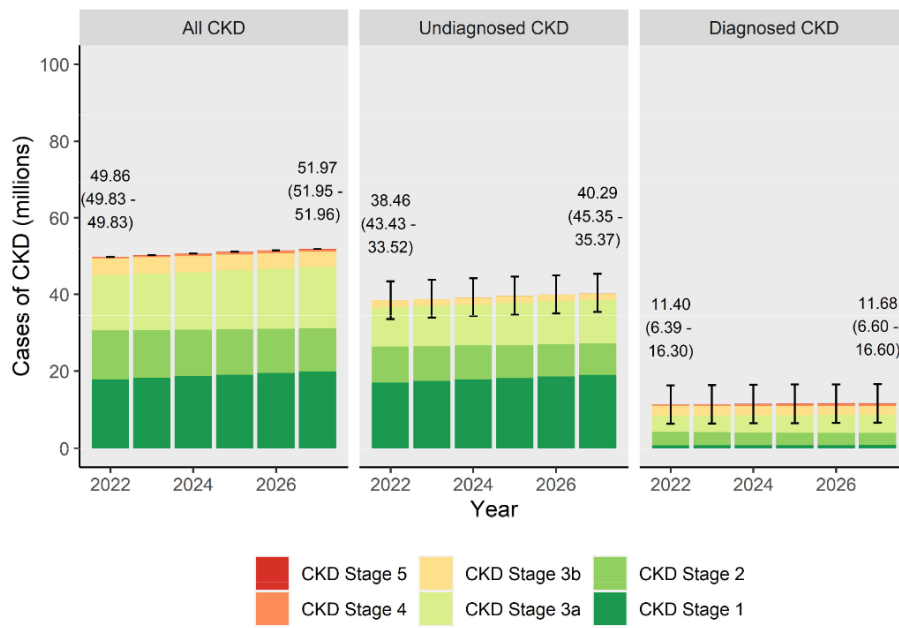
UAE: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



UK: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



USA: Prevalence of CKD following sensitivity analysis on diagnosis rates in which a 10% increase and decrease was applied to the diagnosis rate. Breakdowns by total, undiagnosed and diagnosed CKD are provided. The error bars represent the $\pm 10\%$ difference in diagnosis rate.



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Table S2 references

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