Two drifters, off to see the world
There’s such a lot of world to see
We’re after that same rainbow’s end, waitin’ ‘round the bend
My huckleberry friend, Moon River, and me

Johnny Mercer & Henry Mancini, “Moon River”
This international chapter has expanded each year as more countries participate in the collaborative effort to collate data for the public health surveillance of end-stage renal disease.

This year, we report data from the more than 40 regions and countries which have graciously sent data to the USRDS. Such information not only allows for international comparisons, but provides a context for data on the multiple ethnic and racial groups which constitute the diverse population of the U.S. The USRDS is well aware of the considerable challenges each country faces in gathering its data, and sincerely thanks the registries and providers for their efforts.

Reported rates of incident ESRD across the globe show important trends; rates have slowed in some countries, while rising or remaining stable in others. The U.S., Taiwan, and Japan continue to have some of the highest rates, at 371, 347, and 287 per million population in 2009. In Mexico, rates in Morelos and Jalisco reached 597 and 419, respectively.

In Taiwan, the prevalence of ESRD reached 2,447 per million in 2009, while rates of 2,205 and 1,811 were reported in Japan and the U.S.

More than one in two ESRD patients in Malaysia, Morelos (Mexico), and Jalisco (Mexico) are reported to have diabetes. In Morelos, rates of diabetes in patients age 45–64, 65–74, and 75 and older are 1,277, 1,786, and 1,106 per million population, respectively — two to four times higher than those seen in Malaysia, Taiwan, and the U.S.

Hemodialysis continues to be the most common mode of therapy worldwide, evidenced by data showing that, in over 70 percent of reporting countries, at least 80 percent of patients are on this mode of therapy. In Hong Kong, Jalisco, and Morelos, in contrast, peritoneal dialysis is used by 78, 59, and 58 percent of patients, respectively. And home dialysis therapy is provided to 16.3 and 9.3 percent of patients in New Zealand and Australia.

Renal transplant rates are many times a reflection not only of a country’s healthcare system, but of cultural diversities and beliefs. As an example, transplant rates are less than 10 per million population in countries such as Malaysia, the Philippines, Bosnia and Herzegovina, Romania, and Russia, in contrast to rates above 50 in Canada, Norway, Jalisco, the U.S., and the Netherlands. Rates of functioning grafts reach 591 and 562 per million population in Norway and the U.S., but are less than 40 in Russia, Romania, Morelos, and the Philippines.

We invite all renal registries to participate in our international data collection, and wish to thank all currently participating registries for their willingness to provide data on their ESRD programs, giving us a worldwide perspective on patients with ESRD.

» Figure 12.1; see page 394 for analytical methods. All rates unadjusted. Data from Argentina (2005–2007, 2009), Czech Republic (2005–2008), Japan, & Taiwan are dialysis only.
Comparison of unadjusted ESRD incidence & prevalence worldwide

Incidence rate per million population

Prevalence rate per million population
WORLDWIDE VIEW OF THE INCIDENCE OF ESRD
Figure 12.2; see page 394 for analytical methods. Data presented only for countries from which relevant information was available. All rates unadjusted. Latest data for Luxembourg, Philippines, & Poland are for 2008. Data for France include 20 regions. Data for Belgium & for England/Wales/Northern Ireland do not include patients younger than 20 & 18, respectively.

Geographic variations in the incidence of ESRD (per million population), 2009
Incidence of End-stage Renal Disease

Data presented only for countries from which relevant information was available; ".", signifies data not reported. All rates unadjusted. ^ UK: England, Wales, & Northern Ireland (Scotland data reported separately). Data for Belgium & England/Wales/Northern Ireland do not include patients younger than 20 & 18, respectively. †Latest data for Luxembourg, Poland, & the Philippines are for 2008. Data for France include 13 regions in 2005, 15 regions in 2006, 18 regions in 2007, 20 regions in 2008 & 2009.

Incident rates of reported ESRD in 2009 were greatest in Morelos (Mexico), at 597 per million population, followed by Jalisco (Mexico), the United States, Taiwan, and Japan at 419, 371, 347, and 287, respectively. Rates of less than 100 per million were reported in Brazil, Iceland, the Philippines, Russia, and Bangladesh. As stated in previous ADRs, it is important to note the distinction between the incidence of treatment guided by available funding, and the incidence of the disease itself. An affluent nation may allow elderly patients and those with diabetes to receive hemodialysis, for example, while developing nations may restrict treatment to younger, healthier patients.

Figure 12.3 & Table 12.a; see page 394 for analytical methods.
In 2009, diabetes was the primary cause of ESRD in 58–60 percent of new patients in Malaysia, Morelos (Mexico), and Jalisco (Mexico). Thailand, New Zealand, Hong Kong, the Republic of Korea, Japan, Taiwan, the United States, Israel, and the Philippines all have rates of ESRD incidence due to diabetes of greater than 40 percent. Countries reporting rates below 20 percent include Norway, Iceland, Russia, the Netherlands, and Romania.

By age, the incident rate of ESRD due to diabetes is highest in Morelos, reaching 1,786 per million population in patients age 64–74 — two to three times higher than in Malaysia, Taiwan, and the United States. Rates in the United States are 44 per million for those age 20–44, and 282, 628, and 520, respectively, for those age 45–64, 65–74, and 75 and older. >Figures 12.4–5; see page 394 for analytical methods.
Taiwan and Japan continue to report the highest rates of prevalent ESRD, at 2,447 and 2,205 per million population, respectively, in 2009. The next highest rate is reported by the United States, at 1,811, followed by Jalisco (Mexico), and French-speaking and Dutch-speaking Belgium, at 1,314, 1,193, and 1,141, respectively. The lowest rates are reported by Bangladesh and the Philippines, at 140 and 110.

Data presented only for countries from which relevant information was available; “*” signifies data not reported. All rates unadjusted. *UK: England, Wales, & Northern Ireland (Scotland data reported separately). Data for Belgium & England/Wales/Northern Ireland do not include patients younger than 20 & 18, respectively. *Argentina (2005–2007, 2009), Bangladesh, Brazil, Czech Republic (2005–2008), Japan, Luxembourg, & Taiwan are dialysis only. †Latest data for Luxembourg, the Philippines, & Poland are for 2008. Data for France include 13 regions in 2005, 15 regions in 2006, 18 regions in 2007, & 20 regions in 2008 & 2009.
PATIENT DISTRIBUTION, BY TYPE OF DIALYSIS

In Hong Kong, four of five prevalent dialysis patients were treated with CAPD/CCPD in 2009. More than half of prevalent dialysis patients in Jalisco (Mexico) and Morelos (Mexico) use this therapy, as do 35 percent of those treated in New Zealand.

In-center hemodialysis remains the most common mode of therapy worldwide; in New Zealand and Australia, however, 16.3 and 9.3 percent of patients, respectively, use home hemodialysis.  » Figure I.2.7 & Table I.2c: see page 394 for analytical methods.

Data presented only for countries from which relevant information was available. * signifies data not reported. All rates unadjusted. ^ UK: England, Wales, & Northern Ireland (Scotland data reported separately). Data for Belgium & England/Wales/Northern Ireland do not include patients younger than 20 & 18, respectively. * Argentina (2005–2009), Bangladesh, Brazil, Czech Republic (2005–2008), Japan, Luxembourg & Taiwan are dialysis only. † Latest data for Luxembourg, the Philippines, & Poland are for 2008. Data for France include 13 regions in 2005, 15 regions in 2006, 18 regions in 2007, & 20 regions in 2008 & 2009.

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Percent distribution of prevalent dialysis patients, by modality, 2009

Percent distribution of prevalent dialysis patients, by modality & year

Hemodialysis

Home hemodialysis

Peritoneal dialysis

Argentina

Australia

Austria

Bangladesh

Belgium/Dutch sp.

Belgium, Fr. Sp.

Bosnia/Herzegovina

Brazil

Canada

Chile

Colombia

Croatia

Czech Republic

Denmark

Finland

France

Greece

Hong Kong

Iceland

Israël

Italy

Japan

Korea

Laos

Lithuania

Luxembourg

Malaysia

Mali

Mongolia

Netherlands

New Zealand

Norway

Poland

Portugal

Romania

Russia

Scotland

Spain

Sweden

Switzerland

Turkey

UK

United Kingdom

United States

Uruguay

Vietnam

Vol 2

ESRD

Chapter 12

Page 299
Reported prevalent rates of functioning grafts are greatest in Norway, the United States, and France, at 591, 562, and 509 per million population in 2009. Countries and regions reporting rates above 400 per million include Scotland, Canada, Jalisco (Mexico), Hong Kong, Finland, Belgium (both French- and Dutch-speaking), Austria, Spain, and Sweden. The Philippines, Morelos (Mexico), Romania, and Russia report rates below 40 per million population.
Canada, Norway, Jalisco (Mexico), the United States, and the Netherlands reported transplant rates of 63.1, 60.5, 58.1, 57.7, and 50.0, respectively, per million population in 2009. Rates are less than 10 per million, in contrast, in Malaysia, the Philippines (2008), Bosnia and Herzegovina, Romania, Russia, Thailand, and Bangladesh. » Figure 12.9 & Table 12.e; see page 394 for analytical methods.
Highest rates of reported incident ESRD, 2009
PER MILLION POPULATION
» MORELES MEXICO 597 » JALISCO MEXICO 419 » U.S. 371 » TAIWAN 347 [FIG 12.1]

Highest rates of reported prevalent ESRD, 2009
PER MILLION POPULATION
» TAIWAN 2,447 » JAPAN 2,205 » U.S. 1,811 [FIG 12.6]

Incident patients with ESRD due to diabetes, 2009
» MALAYSIA 60% » MORELOS MEXICO 58% » JALISCO MEXICO 58% » U.S. 44% [FIG 12.4]

Prevalent rates of a functioning graft, 2009
PER MILLION POPULATION
» NORWAY 591 » U.S. 562 » FRANCE 509 » NETHERLANDS 508 [FIG 12.8]

Transplant rates, 2009
PER MILLION POPULATION
» CANADA 63 » NORWAY 61 » JALISCO MEXICO 58 » U.S. 58 » NETHERLANDS 50 [FIG 12.9]