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& by age
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■ Chapter twelve

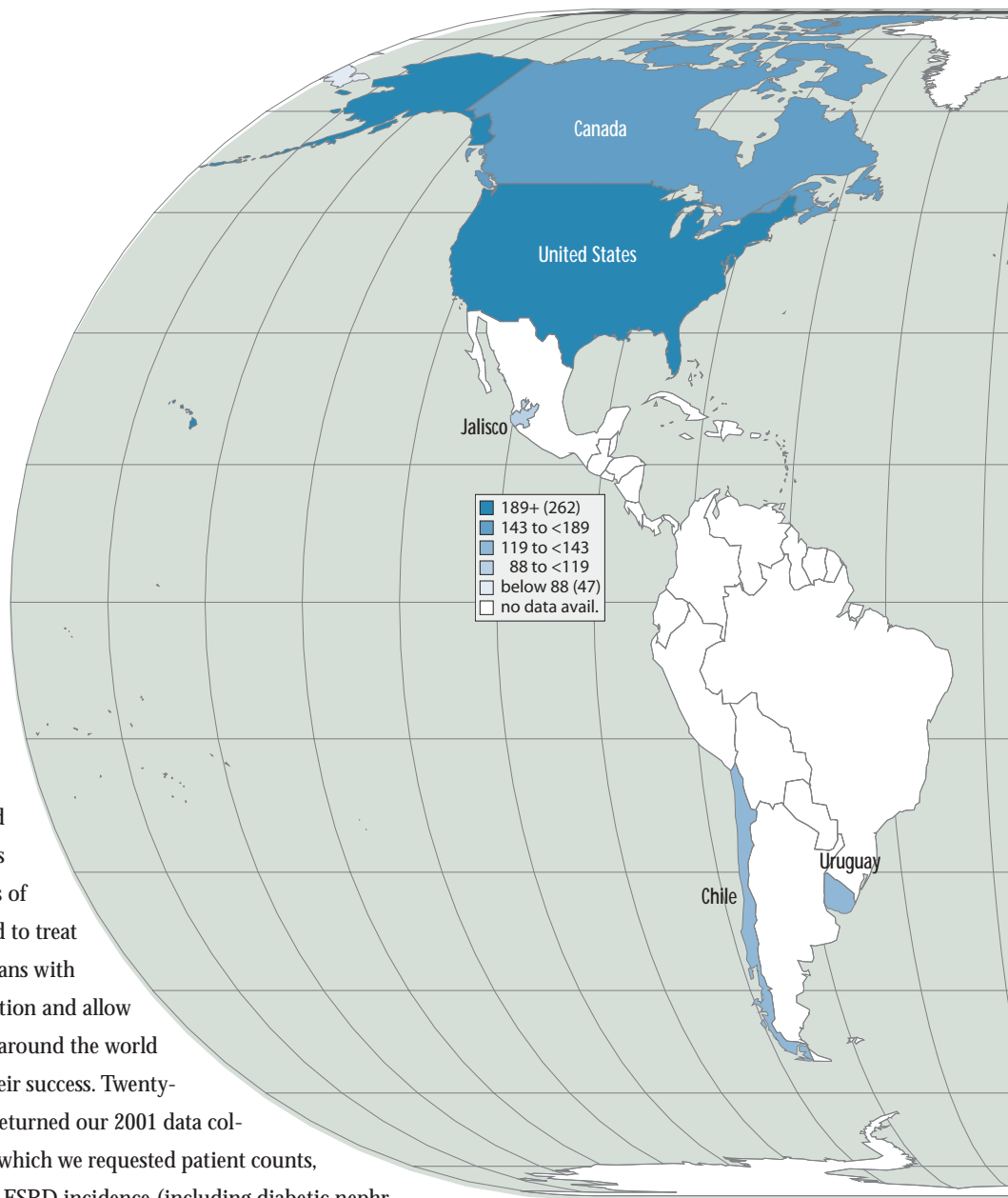
International comparisons

A person can run for years but sooner or later he has to take a stand in the place which, for better or worse, he calls home, do what he can to change things there.

Paule Marshall, The Chosen Place, The Timeless People

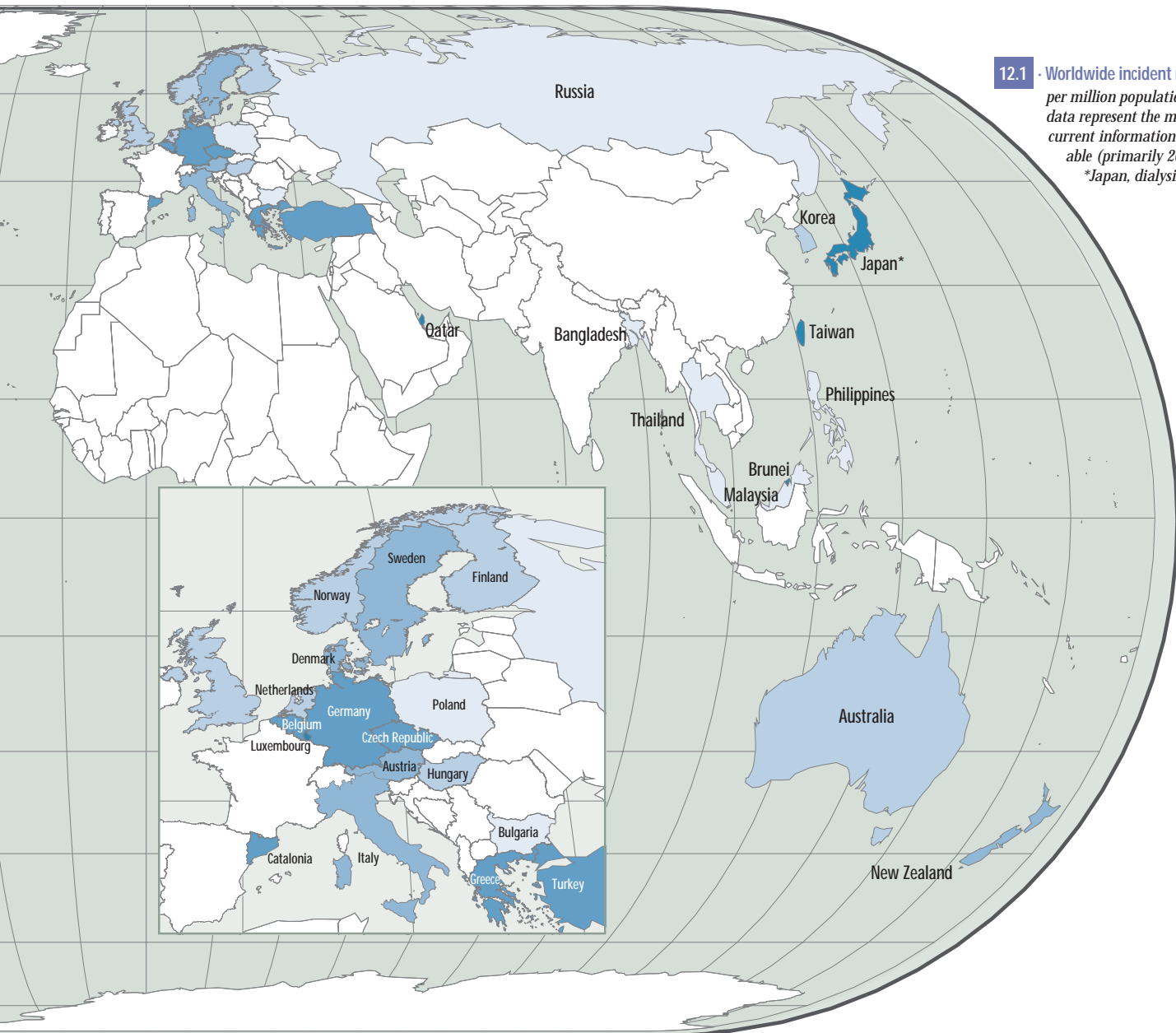
End-stage renal disease affects millions of patients throughout the world.

Comparisons of the incidence and prevalence of this disease, as well as of the methods used to treat it, provide clinicians with valuable information and allow ESRD programs around the world to benchmark their success. Twenty-seven countries returned our 2001 data collection form, on which we requested patient counts, by age group, for ESRD incidence (including diabetic nephropathy), prevalence (overall and by modality), and transplant activity, in addition to national census information that we use to calculate unadjusted patient rates per million population. ■ Incident rates of treated ESRD continue to climb worldwide, with the highest rates occurring in the United States, Taiwan, Qatar, and Japan (252–336 per million population), and rates of only 6 and 15 per million population occurring in Bangladesh and Russia, respectively. ■ Worldwide prevalence of treated ESRD is increasing as well; the highest rates occur in Japan, Taiwan, and the United States (1,400–1,640 per million population), and the lowest in Pakistan and Bangladesh (46–58 per million population). The marked differences in these rates demonstrate that resources for the support of ESRD programs are highly dependent on government infra-



CHAPTER HIGHLIGHTS ■ **Table 12.a/Figure 12.2** Worldwide incident rates are highest in the United States, Taiwan, Qatar, and Japan, at 336, 331, 272, and 252 per million population, respectively. ■ **Figure 12.3** The United States and Finland have the highest incident rates for patients younger than 20 (16.0 and 13.5 pmp). ■ **Table 12.b/Figure 12.4** Brunei (54.4) and the United States (44.3) have the highest percentages of patients with diabetes as the primary cause of ESRD. ■ **Table 12.c/Figure 12.5** Prevalent rates of ESRD per million population are highest in Japan (1,642), Taiwan (1,423), and the United States (1,403). ■ **Figure 12.8** Nearly 75 percent of the pediatric dialysis patients in Finland are placed on peritoneal dialysis. ■ **Figure 12.11** The United States (11.2), Catalonia (10.6), and Denmark (9.4) have the highest transplant rates per million population for pediatric patients.

12.1 · Worldwide incident rates per million population; data represent the most current information available (primarily 2001). *Japan, dialysis only

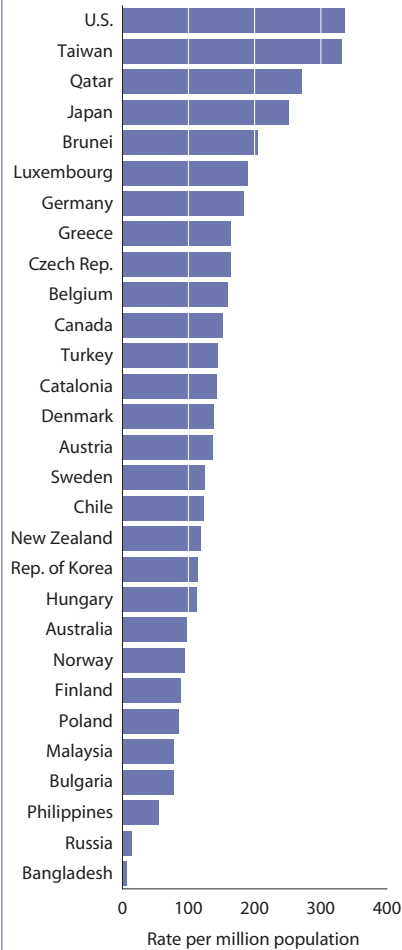


structure and economic conditions within each country. Additional information relating to the international scope of ESRD is provided by the International Federation of Renal Registries (IFRR), found at www.health-tech-net.org.ifrr. ■ The most notable differences in incident rates by age group occur in younger patients. Incident rates per million population for patients younger than 20 are highest in the United States (16.0) followed by Finland (13.5) and New Zealand (12.2). There is a striking difference in incident rates for patients age 20–44 years; the U.S. and Taiwanese rates for these patients are 126 and 110 pmp, while the next highest rate is only 65.4, which occurs in Japan. ■ Finland and the United States have the highest prevalent rates for patients younger than 20 (94 and 80 pmp). For ages 45 and older, the highest prevalent rates occur in Taiwan. ■ Peritoneal dialysis (CAPD/CCPD) is the most popular modality in New Zealand and Australia, and younger patients are the most likely to be placed on this modality. ■ Prevalent rates of functioning grafts are highest in Norway, Catalonia, and the United States, while Catalonia and the United States have the highest transplant rates of 62 and 55 per million population, respectively. ■ We invite all registries to send us their data using the form on page 229, returning it to us by e-mail (usrds@usrds.org) or fax (1.612.347.5878).

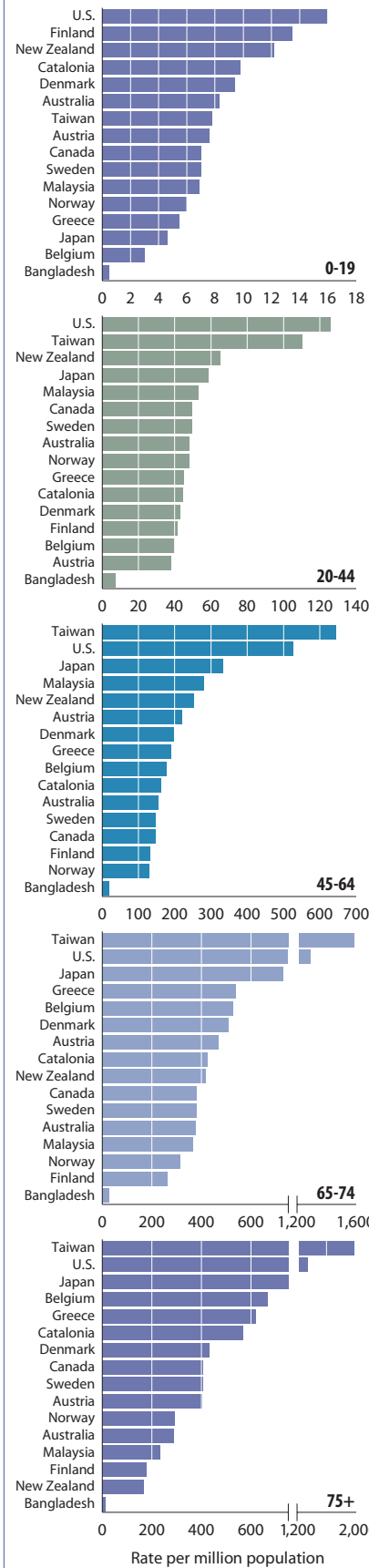
12.a · Incidence of ESRD

	1998	1998	2000	2001
Australia	86	92	90	97
Austria	126	133	133	137
Bangladesh	6	5	6	6
Belgium	140	149	148	159
Brunei	192	178	210	204
Bulgaria	73	78	76	77
Canada	138	146	152	152
Catalonia	135	150	144	143
Chile	121	147	126	123
Czech Republic	133	128	151	163
Denmark	110	123	132	138
Finland	90	91	95	88
Germany	148	148	175	184
Greece	120	124	158	164
Hungary	127	115	116	113
Italy	104	130	131	.
Jalisco (Mexico)	.	92	.	.
Japan	234	240	252	252
Korea, Republic of	.	91	93	114
Luxembourg	.	135	140	189
Malaysia	59	71	81	77
Netherlands	94	98	93	.
New Zealand	98	98	110	119
Norway	90	89	90	95
Philippines	11	15	37	56
Poland	52	58	68	85
Qatar	.	246	234	272
Russia	20	20	15	15
Sweden	127	125	129	124
Taiwan	288	322	337	331
Thailand	10	12	10	.
Turkey	.	121	116	144
United States	313	328	332	336
Uruguay	137	145	126	.

12.2 · Incidence of ESRD



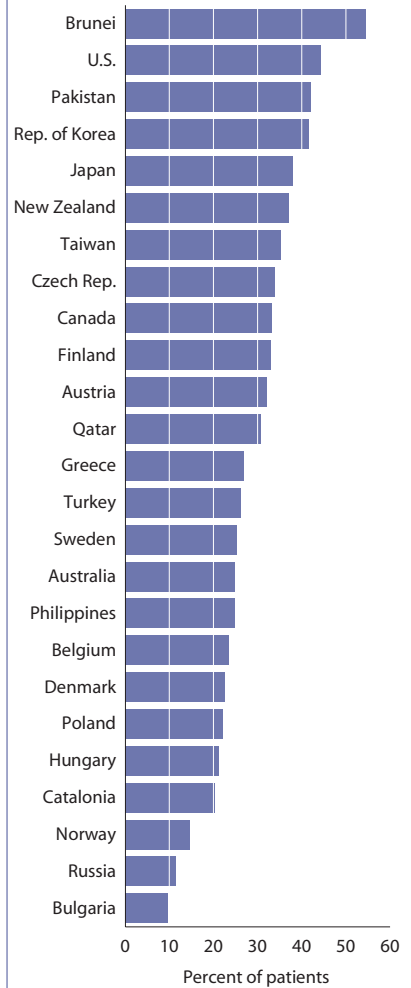
12.3 · Incidence of ESRD, by age



12.b · Percent of incident patients with diabetes

	1998	1998	2000	2001
Australia	.	24.5	22.8	24.9
Austria	31.0	31.7	32.7	32.1
Belgium	22.6	25.1	20.9	23.6
Brunei	32.3	39.0	45.1	54.4
Bulgaria	.	9.2	8.8	9.7
Canada	30.0	31.5	32.0	33.3
Catalonia	19.8	19.0	20.0	20.4
Czech Republic	31.0	.	33.0	33.9
Denmark	20.8	22.7	21.6	22.6
Finland	33.6	32.0	31.7	33.0
Germany	33.0	34.6	36.2	.
Greece	21.2	21.5	26.0	26.8
Hungary	18.3	21.3	20.9	21.1
Italy	.	15.3	17.4	.
Jalisco (Mexico)	.	57.7	.	.
Japan	36.2	36.2	36.6	38.1
Korea, Republic of	.	39.8	40.7	41.5
Netherlands	15.5	14.0	16.7	.
New Zealand	.	39.5	36.2	37.1
Norway	10.2	12.1	15.1	14.5
Pakistan	.	.	.	42.0
Philippines	.	23.9	23.8	24.8
Poland	.	22.1	20.1	22.2
Qatar	.	37.3	42.0	30.6
Russia	.	9.4	12.8	11.4
Sweden	23.0	21.6	25.4	25.2
Taiwan	28.7	30.8	32.3	35.3
Thailand	27.2	29.9	30.1	.
Turkey	.	19.4	23.2	26.3
United States	43.4	43.3	44.1	44.3
Uruguay	16.4	18.9	17.8	.

12.4 · Percent of incident patients with diabetes



chapter summary

INTRODUCTION ■ Worldwide incident rates are highest in the United States, Taiwan, Qatar, and Japan, at 336, 331, 272, and 252 per million population, respectively. **INCIDENCE & PREVALENCE** ■ **Figure 12.3** The United States and Finland have the highest incident rates for patients younger than 20 (16.0 and 13.5 pmp). ■ The incident rate in the United States for patients age 75 or older is 1,346 per million population. ■ **Table 12.b/Figure 12.4** Brunei (54.4) and the United States (44.3) have the highest percentage of patients with diabetes as the primary cause of ESRD. ■ In Brunei, the proportion of patients with diabetes as their primary cause of renal failure increased 21 percent between 2000 and 2001. ■ **Table 12.c/Figure 12.5**

Prevalent rates of ESRD per million population are highest in Japan (1,642), Taiwan (1,423), and the United States (1,403).

■ **Figure 12.6** Finland and the United States have the highest prevalent rates for pediatric patients. **DIALYSIS & TRANSPLANTATION** ■ **Table 12.d/Figure 12.7** Hemodialysis is the modality of choice in the majority of countries. Nearly 50 percent of dialysis patients in New Zealand, however, are treated with peritoneal dialysis. ■ **Figure 12.8** Nearly 75 percent of the pediatric dialysis patients in Finland are placed on peritoneal dialysis. ■ **Table 12.e/Figure 12.9** Norway, Catalonia, and the United States have the highest rates per million population of patients with a functioning graft (452, 447, and 410). ■ **Table 12.f/Figure 12.10** Transplant rates are highest in Catalonia and the United States, at 62 and 55 per million population, respectively. ■ **Figure 12.11** The United States (11.2), Catalonia (10.6), and Denmark (9.4) have the highest transplant rates per million population for pediatric patients. ■ Norway's transplant rate for patients age 75 years or older is more than three times the rate in any other country.