

# **Opioid Availability: Eastern Europe and Central Eurasia**

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## **About the Pain & Policy Studies Group**

The Pain & Policy Studies Group mission is to promote “balance” in international, national and state pain policies to ensure adequate availability of opioid analgesics and their appropriate medical use for patient care while addressing diversion and abuse. The PPSG is designated the World Health Organization Collaborating Center for Policy and Communications in Cancer Care. Much of the PPSG’s work, including new WHO Guidelines that are discussed later in this document (now available in 12 languages, including: Bulgarian, English, French, German, Italian, Lithuanian, Polish, Romanian, Russian, Spanish, Turkish, and Ukrainian), are available on the PPSG website at [www.medsch.wisc.edu/painpolicy](http://www.medsch.wisc.edu/painpolicy). As a WHO Collaborating Center, the PPSG provides technical assistance to governments in Africa, Asia, Europe, and Latin America, and established a WHO Demonstration Project in Calicut, India.

The PPSG also supports a global communications program to improve access to information about pain relief, palliative care, and pain policy, and publishes a WHO newsletter *Cancer Pain Release* (<http://www.medsch.wisc.edu/WHOcancerpain/>).

## **Citation:**

Pain & Policy Studies Group. *Opioid Availability: Eastern Europe and Central Eurasia*. University of Wisconsin Pain & Policy Studies Group/WHO Collaborating Center for Policy and Communications in Cancer Care; Madison, Wisconsin, USA. Prepared for Palliative Care in Cancer; Budapest, Hungary; September 2005 (Monograph).

## **SECTION I - CANCER PAIN RELIEF AND OPIOID AVAILABILITY IN THE WORLD**

### **Relieving cancer pain**

In 1986, the WHO said that implementation of currently available medical knowledge could relieve most pain due to cancer.<sup>1</sup> WHO recommended that health professionals use a three-step Analgesic Ladder to treat cancer pain and that governments make the drugs available. The successful implementation of the WHO Analgesic Ladder depends on the availability of drugs that are safe and effective in relieving chronic severe pain, such as morphine or other strong opioids including fentanyl, hydromorphone, methadone and oxycodone. However, the availability of these drugs varies greatly from country to country.

### **Monitoring progress**

The WHO monitors countries' consumption of opioids as one indicator of national progress to improve cancer pain relief. Morphine is the principal indicator because it is the most widely available opioid analgesic for moderate to severe pain. Consumption trends for pethidine are included in this monograph because, although pethidine is not recommended for chronic pain, it is an opioid with the same control status as morphine, and its medical use is extensive. If governments can make pethidine available, they can also make morphine available.

Prior to 1986, the consumption of morphine throughout the world was low and stable. After 1986, the total global consumption of morphine began to increase substantially as some national governments and health professionals adopted the WHO Analgesic Ladder and as new opioid products became available more widely. It should be noted that medical use of morphine in some countries is mainly for cancer pain, but morphine and other opioids can be used for acute post-operative pain, AIDS pain, chronic non-cancer pain, and treatment for opioid dependence.

### **Morphine consumption in the world**

In 2003, six countries together accounted for 79 per cent of global consumption of morphine. Developing countries, which represent about 80 per cent of the world's population, accounted for only about 6 per cent of global consumption of morphine. In some countries, the lack of palliative care and opioids is particularly serious because, by the time most patients are diagnosed with cancer, they have late-stage cancer that is often accompanied by severe pain.

### **Inadequate opioid availability**

Although many countries have experienced little change in morphine consumption since 1986, some have recently begun to increase their use of opioids for cancer pain relief. Nevertheless, global consumption remains extremely low in comparison to the medical need, and many national governments have yet to address this important health priority. According to a 1996 survey of governments by the International Narcotics Control Board (INCB),<sup>2</sup> injectable forms of morphine were more available than oral forms recommended by WHO, and approximately one-half of governments reported that morphine is not available in all hospitals that treat cancer patients. In addition, only 60% of governments surveyed had endorsed the WHO Analgesic Ladder. Success in implementing the WHO Analgesic Ladder has been limited by the lack of opioid analgesics, exaggerated fear of addiction, and excessively strict regulation of

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<sup>1</sup> World Health Organization. *Cancer Pain Relief*. Geneva, Switzerland: World Health Organization; 1986.

<sup>2</sup> International Narcotics Control Board. *Report of the International Narcotics Control Board for 1995: Availability of Opiates for Medical Needs*. Vienna, Austria: United Nations; 1996. Available at <http://www.incb.org/e/ar/1995/suppl1en.pdf>

narcotic drugs. Future success will depend on governmental efforts to address regulatory barriers and make opioids more available.

### **Impediments to availability**

The INCB and the WHO have concluded that there are a number of impediments to the availability and use of opioid analgesics for cancer pain relief. Many government policies limit the quantity and duration of opioid prescriptions and impose special requirements for physicians who prescribe. National health priorities may not include cancer pain relief, as was evident in about half of the governments responding to the survey. In addition, health professionals, narcotic regulators and legislators may not realize there is a need for pain relief; they may be mainly concerned about narcotic addiction and diversion. In fact, 43% of governments that responded to the INCB survey said that they require physicians to report to the government those patients who are prescribed opioid analgesics.

## **SECTION II - EFFORTS TO IMPROVE OPIOID AVAILABILITY IN THE WORLD**

The WHO and the INCB are addressing the unmet need for opioid analgesics, as well as the impediments to their adequate availability.

### **WHO activities to improve availability**

The WHO recommends that national governments implement a three-part strategy to make cancer pain relief and palliative care a priority: (1) establish a national policy that supports pain relief and palliative care; (2) develop educational programs for the public and health professionals; and (3) ensure the availability of needed drugs for the treatment of pain and other symptoms. The WHO Collaborating Center for Policy and Communications in Cancer Care provides technical assistance to governments and health professionals to evaluate impediments to opioid availability and to monitor the progress to improve opioid availability while preventing diversion. In 2000, the WHO published guidelines for evaluating national opioids control policy for “balance.”

### **INCB activities to improve availability**

The INCB is the international narcotics regulatory authority for the United Nations. The INCB monitors national governments’ implementation of the 1961 Single Convention on Narcotic Drugs, as amended, a treaty that governs availability of narcotic drugs in the world.

According to the Single Convention, opioids (narcotic drugs) are indispensable for the treatment of pain and suffering, and governments should ensure their adequate availability for all medical and scientific purposes while preventing addiction and diversion. Thus, it is the responsibility of national governments (because most governments are parties to this treaty) not only to prevent misuse and diversion but also to ensure availability of opioids for medical needs. The INCB reports that, despite the large number of transactions of narcotic drugs, there was no diversion reported in 2004.<sup>3</sup> The INCB and other United Nations organizations, such as the Commission on Narcotic Drugs, have recognized that opioids are not sufficiently available in the world. The INCB has requested all national governments to (a) re-evaluate their medical needs for opioids, (b) identify and address impediments, and (c) communicate with health professionals to determine the unmet medical need for opioid analgesics.

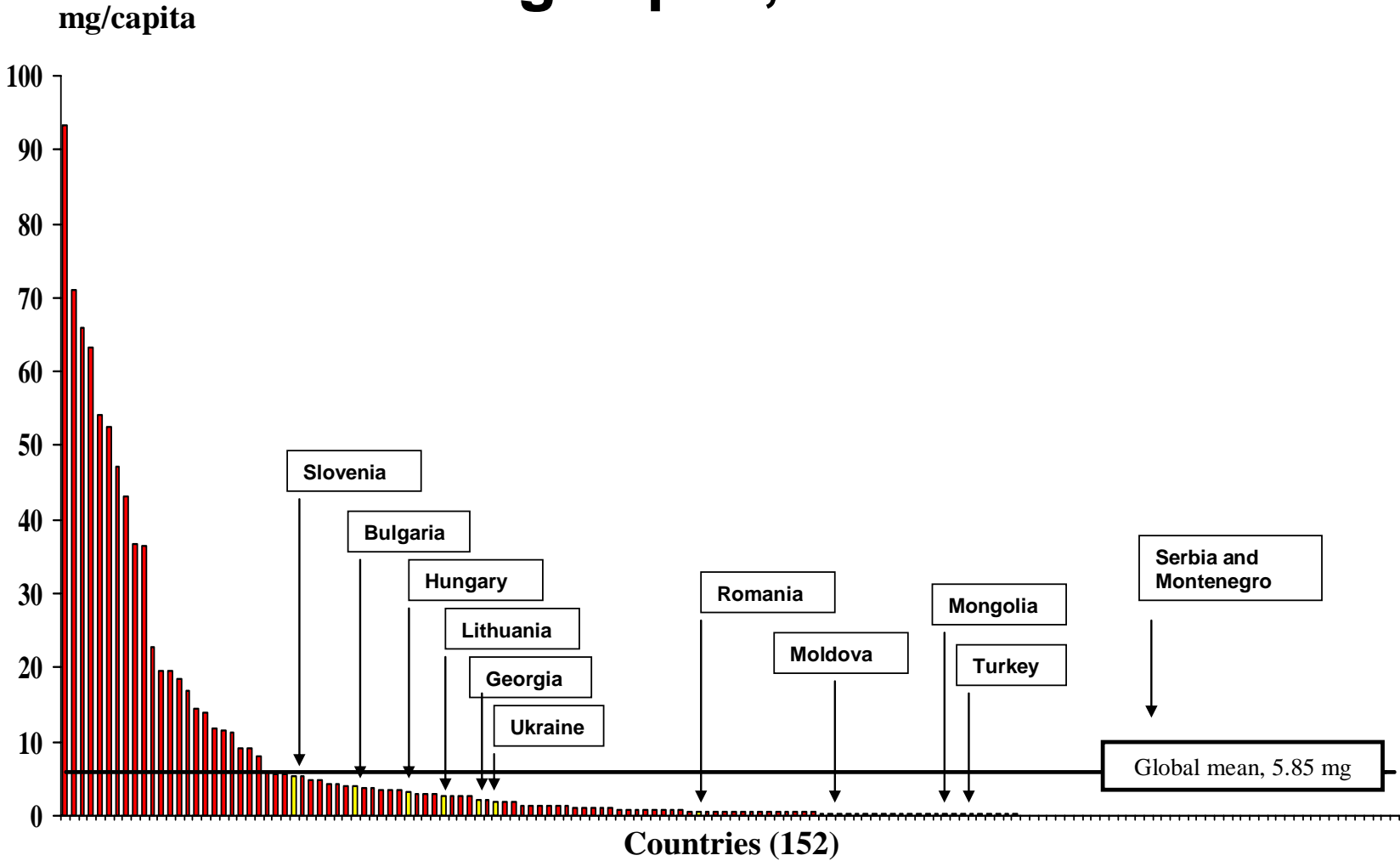
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<sup>3</sup> International Narcotics Control Board. *Report of the International Narcotics Control Board for 2004*. New York, NY: United Nations; 2005. Available at [http://www.incb.org/incb/annual\\_report.html](http://www.incb.org/incb/annual_report.html).

**WHOCC activities to improve availability**

As a WHO Collaborating Center, the Pain and Policy Studies Group (PPSG) provides technical assistance to governments in Africa, Asia, Europe, and Latin America, and established a WHO Demonstration Project in Calicut, India. The World Health Organization Collaborating Center efforts to improve opioid availability are summarized in annual reports available at <http://www.medsch.wisc.edu/painpolicy/publicat/annrepts.htm>.

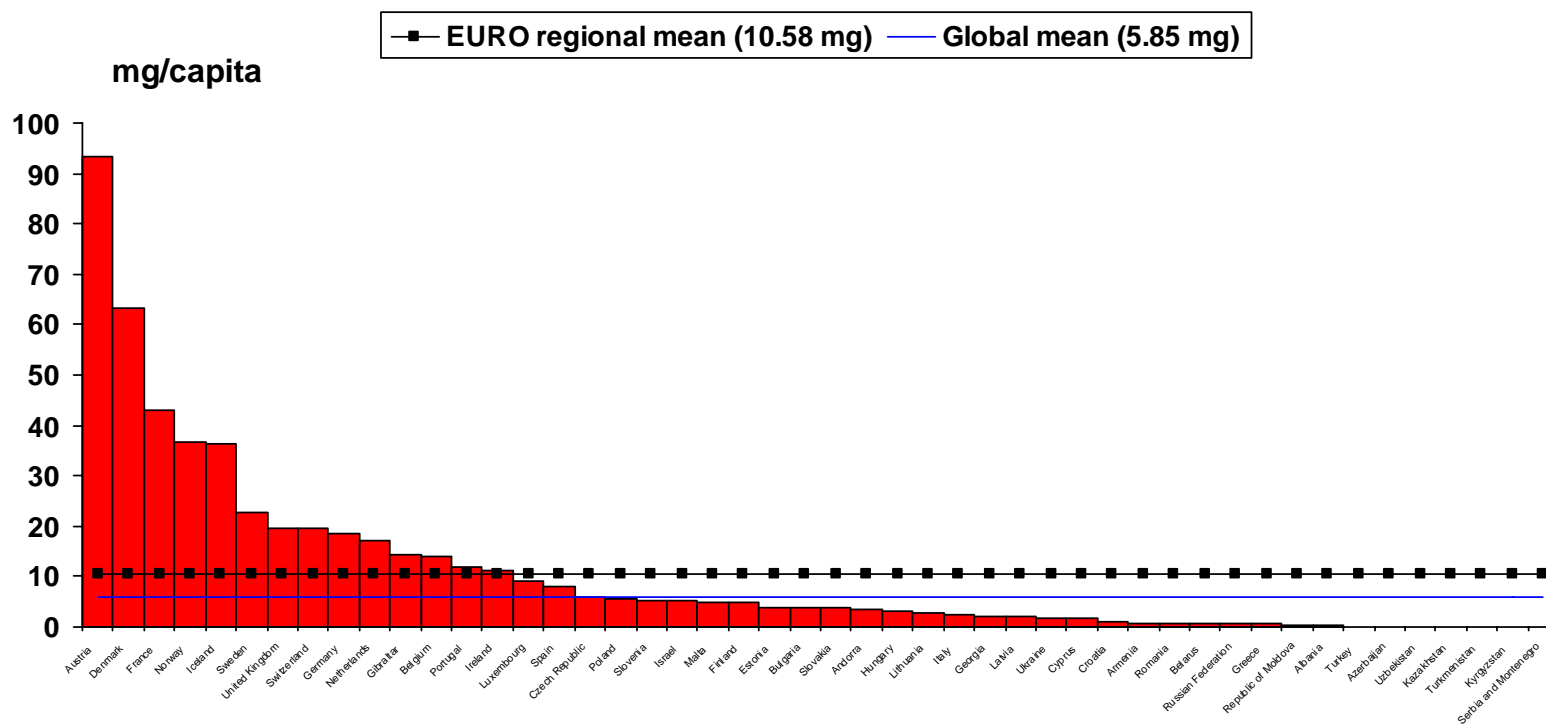
# Global Consumption of Morphine mg/capita, 2003



Source: International Narcotics Control Board; United Nations Demographic Yearbook  
By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2005

The global mean is calculated by adding the individual mg/capita statistics for all countries and then dividing by the number of countries

# Consumption of Morphine, Europe mg/capita, 2003



Source: International Narcotics Control Board; United Nations Demographic Yearbook  
 By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2005

## Morphine Consumed, milligrams per capita by country (2003)

Austria	93.2011	Tunisia	1.7481	<b>Turkey</b>	0.1597
Falkland Islands	71.0000	British Virgin Islands	1.4000	Philippines	0.1584
Canada	66.0149	Saint Vincent & the Grenadines	1.3898	Venezuela	0.1581
Denmark	63.3968	Namibia	1.3762	El Salvador	0.1503
Australia	54.1915	Montserrat	1.3333	Azerbaijan	0.1386
New Zealand	52.6107	Bahrain	1.3276	Cameroon	0.1361
U.S.A.	47.1957	Saint Lucia	1.2313	Peru	0.1344
France	43.0766	Paraguay	1.0707	Egypt	0.1302
Norway	36.6422	Lebanon	0.9941	Uzbekistan	0.1294
Iceland	36.4526	Croatia	0.9699	Morocco	0.1142
Sweden	22.8451	Cuba	0.9503	Syrian Arab Republic	0.1040
United Kingdom	19.6058	Colombia	0.9486	Burundi	0.0951
Switzerland	19.5522	Argentina	0.8943	Swaziland	0.0917
Germany	18.3914	Dem. Peop. Rep. of Korea	0.8925	Uganda	0.0899
Netherlands	16.9996	Singapore	0.8495	Kazakhstan	0.0883
Gibraltar	14.3704	Cook Islands	0.8333	Turkmenistan	0.0869
Belgium	13.9653	Netherlands Antilles	0.8018	Kyrgyzstan	0.0769
Portugal	11.8949	Armenia	0.7558	Maldives	0.0667
Saint Helena	11.6000	Jamaica	0.6869	Solomon Islands	0.0667
Ireland	11.2166	Macao	0.6725	Wallis and Futuna Islands	0.0667
Luxembourg	9.1179	United Arab Emirates	0.6666	Libyan Arab Jamahiriya	0.0635
Cayman Islands	9.0789	<b>Romania</b>	0.6621	<b>Serbia and Montenegro</b>	0.0577
Spain	7.9760	Belarus	0.6541	Viet Nam	0.0562
Czech Republic	5.9084	Russian Federation	0.6442	Dominica	0.0513
Poland	5.6807	Brunei Darussalam	0.6111	Djibouti	0.0470
Japan	5.6148	Greece	0.5493	Lesotho	0.0373
<b>Slovenia</b>	5.3089	Suriname	0.5338	Kenya	0.0349
Israel	5.2732	Vanuatu	0.5149	Myanmar	0.0327
Malta	4.8593	Thailand	0.5033	Mexico	0.0314
Finland	4.8491	Panama	0.4327	Guyana	0.0223
Brazil	4.3586	Mozambique	0.4260	Cambodia	0.0208
French Polynesia	4.2700	Saudi Arabia	0.4256	Zambia	0.0204
Estonia	4.0207	Turks and Caicos Islands	0.4211	Senegal	0.0177
<b>Bulgaria</b>	3.9416	Mauritius	0.4107	Indonesia	0.0147
Slovakia	3.7436	Dominican Republic	0.4077	Rwanda	0.0120
South Africa	3.7292	<b>Republic of Moldova</b>	0.4001	Iraq	0.0105
Bahamas	3.6059	Qatar	0.3739	Angola	0.0078
Andorra	3.4776	Jordan	0.3384	Yemen	0.0071
Seychelles	3.4000	Grenada	0.3210	Cape Verde	0.0067
<b>Hungary</b>	3.1056	Oman	0.3185	Guinea	0.0056
Republic of Korea	2.9958	Tonga	0.3137	Comoros	0.0055
Hong Kong SAR	2.9480	Marshall Islands	0.2885	Sierra Leone	0.0055
Barbados	2.8433	Nicaragua	0.2877	Algeria	0.0041
<b>Lithuania</b>	2.7799	Sri Lanka	0.2872	Madagascar	0.0039
Costa Rica	2.6511	Albania	0.2783	Benin	0.0038
Italy	2.5888	Ecuador	0.2717	Eritrea	0.0021
Chile	2.5558	Republic of Palau	0.2500	Côte d'Ivoire	0.0016
<b>Georgia</b>	2.2288	<b>Mongolia</b>	0.2215	Haiti	0.0011
Latvia	2.0766	China	0.2189	Nigeria	0.0005
<b>Ukraine</b>	1.8800	Kuwait	0.2163	Ethiopia	0.0003
Cyprus	1.7681	Tuvalu	0.2000		

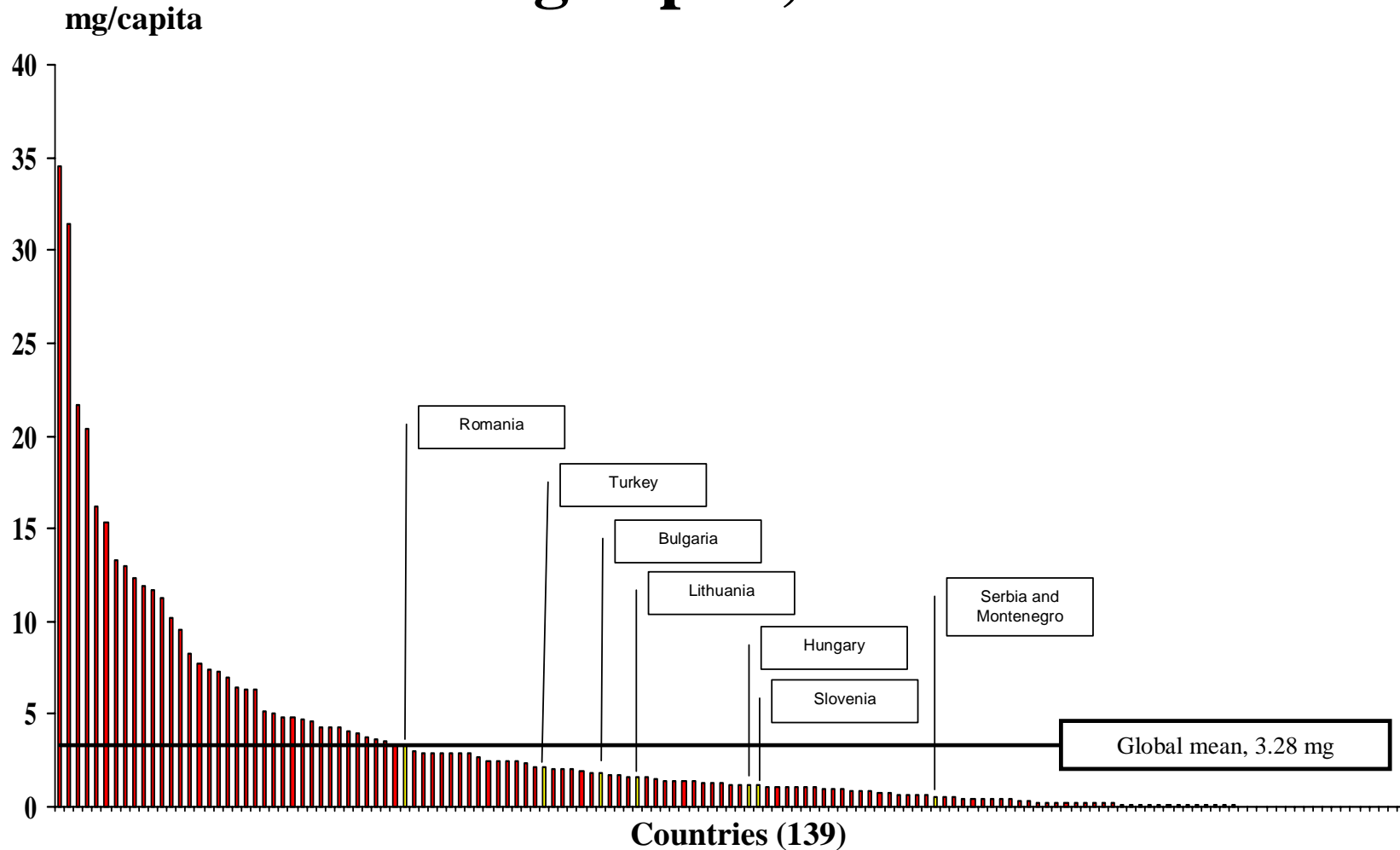
Note: Countries not represented on this list did not report consumption statistics to the INCB for 2003

**Morphine Consumed, milligrams per capita by country (2003)**  
**-Countries sorted alphabetically-**

Albania	0.2783	Georgia	2.2288	Peru	0.1344
Algeria	0.0041	Germany	18.3914	Philippines	0.1584
Andorra	3.4776	Gibraltar	14.3704	Poland	5.6807
Angola	0.0078	Greece	0.5493	Portugal	11.8949
Argentina	0.8943	Grenada	0.321	Qatar	0.3739
Armenia	0.7558	Guinea	0.0056	Republic of Korea	2.9958
Australia	54.1915	Guyana	0.0223	Republic of Moldova	0.4001
Austria	93.2011	Haiti	0.0011	Republic of Palau	0.25
Azerbaijan	0.1386	Hong Kong SAR	2.948	Romania	0.6621
Bahamas	3.6059	Hungary	3.1056	Russian Federation	0.6442
Bahrain	1.3276	Iceland	36.4526	Rwanda	0.012
Barbados	2.8433	Indonesia	0.0147	Saint Helena	11.6
Belarus	0.6541	Iraq	0.0105	Saint Lucia	1.2313
Belgium	13.9653	Ireland	11.2166	Saint Vincent & the Grenadines	1.3898
Benin	0.0038	Israel	5.2732	Saudi Arabia	0.4256
Brazil	4.3586	Italy	2.5888	Senegal	0.0177
British Virgin Islands	1.4	Jamaica	0.6869	Serbia and Montenegro	0.0577
Brunei Darussalam	0.6111	Japan	5.6148	Seychelles	3.4
Bulgaria	3.9416	Jordan	0.3384	Sierra Leone	0.0055
Burundi	0.0951	Kazakhstan	0.0883	Singapore	0.8495
Cambodia	0.0208	Kenya	0.0349	Slovakia	3.7436
Cameroon	0.1361	Kuwait	0.2163	Slovenia	5.3089
Canada	66.0149	Kyrgyzstan	0.0769	Solomon Islands	0.0667
Cape Verde	0.0067	Latvia	2.0766	South Africa	3.7292
Cayman Islands	9.0789	Lebanon	0.9941	Spain	7.976
Chile	2.5558	Lesotho	0.0373	Sri Lanka	0.2872
China	0.2189	Libyan Arab Jamahiriya	0.0635	Suriname	0.5338
Colombia	0.9486	Lithuania	2.7799	Swaziland	0.0917
Comoros	0.0055	Luxembourg	9.1179	Sweden	22.8451
Cook Islands	0.8333	Macao	0.6725	Switzerland	19.5522
Costa Rica	2.6511	Madagascar	0.0039	Syrian Arab Republic	0.104
Côte d'Ivoire	0.0016	Maldives	0.0667	Thailand	0.5033
Croatia	0.9699	Malta	4.8593	Tonga	0.3137
Cuba	0.9503	Marshall Islands	0.2885	Tunisia	1.7481
Cyprus	1.7681	Mauritius	0.4107	Turkey	0.1597
Czech Republic	5.9084	Mexico	0.0314	Turkmenistan	0.0869
Dem. Peop. Rep. of Korea	0.8925	Mongolia	0.2215	Turks and Caicos Islands	0.4211
Denmark	63.3968	Montserrat	1.3333	Tuvalu	0.2
Djibouti	0.047	Morocco	0.1142	Uganda	0.0899
Dominica	0.0513	Mozambique	0.426	Ukraine	1.88
Dominican Republic	0.4077	Myanmar	0.0327	United Arab Emirates	0.6666
Ecuador	0.2717	Namibia	1.3762	United Kingdom	19.6058
Egypt	0.1302	Netherlands	16.9996	U.S.A.	47.1957
El Salvador	0.1503	Netherlands Antilles	0.8018	Uzbekistan	0.1294
Eritrea	0.0021	New Zealand	52.6107	Vanuatu	0.5149
Estonia	4.0207	Nicaragua	0.2877	Venezuela	0.1581
Ethiopia	0.0003	Nigeria	0.0005	Viet Nam	0.0562
Falkland Islands	71	Norway	36.6422	Wallis and Futuna Islands	0.0667
Finland	4.8491	Oman	0.3185	Yemen	0.0071
France	43.0766	Panama	0.4327	Zambia	0.0204
French Polynesia	4.27	Paraguay	1.0707		

Note: Countries not represented on this list did not report consumption statistics to the INCB for 2003

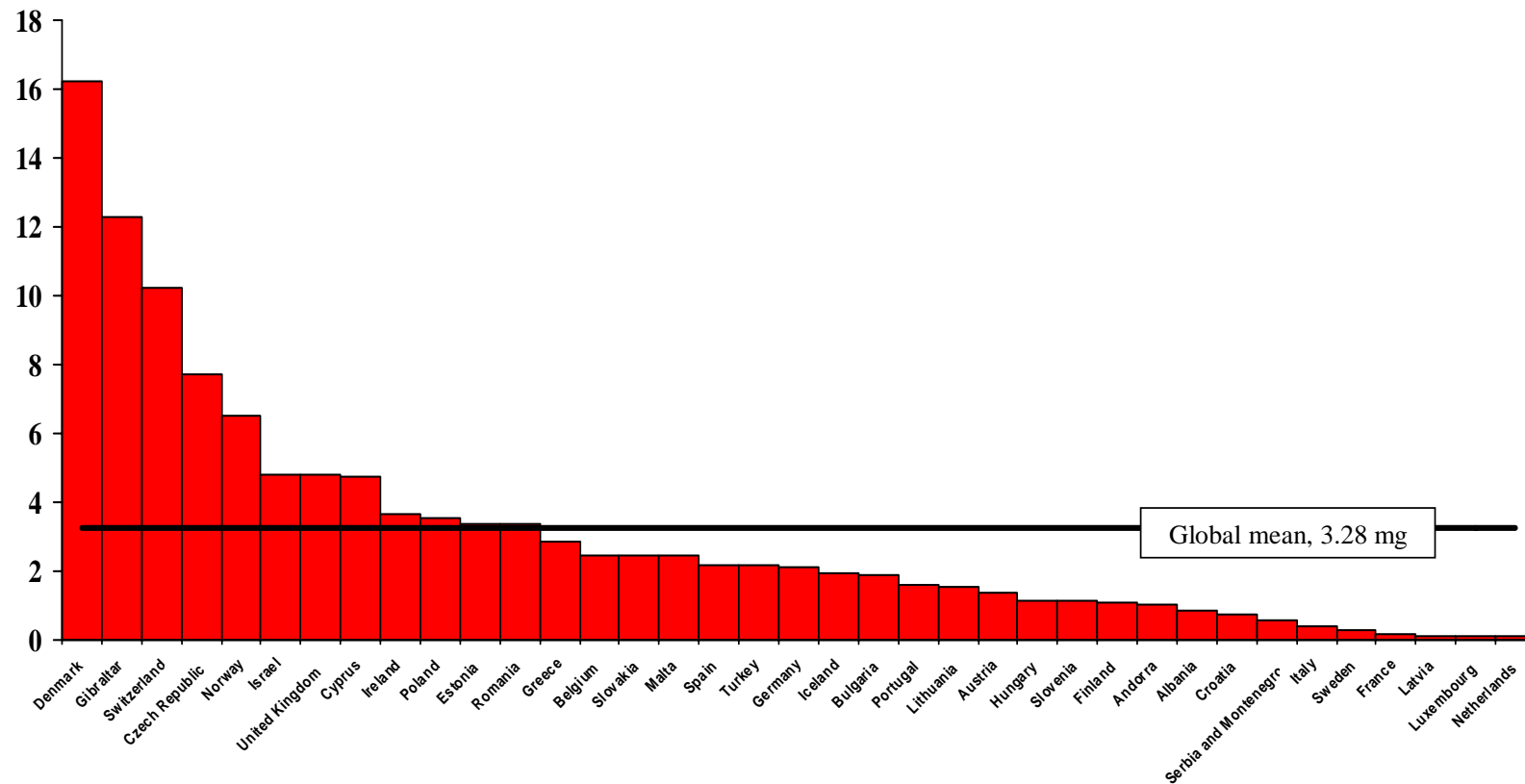
# Global Consumption of Pethidine mg/capita, 2003



Source: International Narcotics Control Board; United Nations "Demographic Yearbook  
By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2005

*The global mean is calculated by adding the individual mg/capita statistics for all countries and then dividing by the number of countries*

# Consumption of Pethidine in Europe mg/capita, 2003



Source: International Narcotics Control Board; United Nations "Demographic Yearbook  
By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2005

*The global mean is calculated by adding the individual mg/capita statistics for  
all countries and then dividing by the number of countries*

## Pethidine Consumed, milligrams per capita by country (2003)

Cayman Islands	34.5263	Slovakia	2.4386	Guatemala	0.6021
Barbados	31.3806	Malta	2.4297	<b>Serbia and Montenegro</b>	0.5807
Bahamas	21.6547	Lebanon	2.4170	Kenya	0.5451
U.S.A.	20.3278	Brunei Darussalam	2.4006	Costa Rica	0.5121
Denmark	16.2239	Spain	2.1920	Viet Nam	0.4696
British Virgin Islands	15.3000	<b>Turkey</b>	2.1626	Tunisia	0.4684
Cook Islands	13.3333	Germany	2.0883	Peru	0.4527
Canada	12.9794	Republic of Korea	1.9931	Bangladesh	0.4259
Gibraltar	12.2963	Netherlands Antilles	1.9862	Italy	0.4013
New Zealand	11.8912	Iceland	1.9228	Japan	0.3942
Saint Vincent & the Grenadines	11.6441	Lesotho	1.8763	Benin	0.3502
Australia	11.2673	<b>Bulgaria</b>	1.8590	Honduras	0.2719
Switzerland	10.2083	Sierra Leone	1.7501	Sweden	0.2574
Dominica	9.5000	China	1.6992	Comoros	0.2479
South Africa	8.2058	Portugal	1.6119	Lao Peop. Dem. Rep.	0.2351
Czech Republic	7.7340	<b>Lithuania</b>	1.5672	Togo	0.2247
Bahrain	7.4271	Namibia	1.5560	Algeria	0.2148
Republic of Palau	7.2500	Chile	1.5159	French Polynesia	0.2025
Falkland Islands	7.0000	Tuvalu	1.4000	Eritrea	0.2022
Norway	6.4862	Macao	1.3956	Indonesia	0.1838
Qatar	6.3316	Austria	1.3845	Yemen	0.1611
Grenada	6.2963	El Salvador	1.3455	India	0.1475
Jamaica	5.1982	Iran (Islamic Republic of)	1.2520	France	0.1452
Saint Lucia	5.0544	Paraguay	1.2491	Latvia	0.1361
Israel	4.8001	Thailand	1.2418	Burundi	0.1279
United Kingdom	4.7962	Mauritius	1.2003	Zambia	0.1211
Cyprus	4.7186	Oman	1.1722	Iraq	0.1198
Jordan	4.6126	<b>Hungary</b>	1.1611	Luxembourg	0.1134
Brazil	4.3179	<b>Slovenia</b>	1.1569	Argentina	0.1130
Guyana	4.2887	Sri Lanka	1.1013	Mozambique	0.1050
Kuwait	4.2796	Finland	1.0725	Haiti	0.1047
Turks and Caicos Islands	4.1053	Andorra	1.0448	Netherlands	0.0972
Malaysia	3.9287	Suriname	1.0420	Philippines	0.0846
Saint Helena	3.8000	Colombia	1.0217	Pakistan	0.0684
Ireland	3.6582	Marshall Islands	1.0192	Chad	0.0438
Poland	3.5236	Solomon Islands	0.9556	Nigeria	0.0364
Estonia	3.3644	Swaziland	0.9452	Ethiopia	0.0315
<b>Romania</b>	3.3443	Maldives	0.9133	Angola	0.0313
Libyan Arab Jamahiriya	2.9963	Syrian Arab Republic	0.8682	Myanmar	0.0303
Hong Kong SAR	2.9375	Cape Verde	0.8674	Nepal	0.0275
Seychelles	2.9375	Albania	0.8642	Dem. Rep. of the Congo	0.0210
Singapore	2.9160	Panama	0.7852	Rwanda	0.0195
Tonga	2.8725	Croatia	0.7512	Burkina Faso	0.0073
Greece	2.8533	Montserrat	0.6667	Cambodia	0.0058
United Arab Emirates	2.8482	Uganda	0.6464	Cameroon	0.0032
Saudi Arabia	2.6825	Vanuatu	0.6287	Dominican Republic	0.0001
Belgium	2.4745				

Note: Countries not represented on this list did not report consumption statistics to the INCB for 2003.

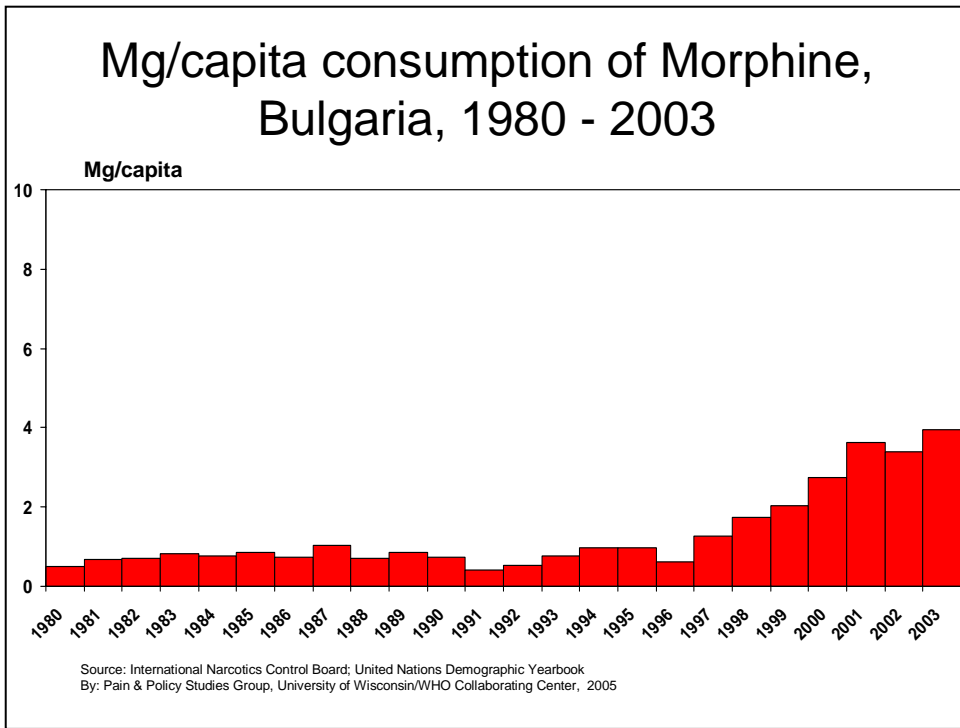
**Pethidine Consumed, milligrams per capita by country (2003)**  
**-Countries sorted alphabetically-**

Albania	0.8642	Gibraltar	12.2963	Pakistan	0.0684
Algeria	0.2148	Greece	2.8533	Panama	0.7852
Andorra	1.0448	Grenada	6.2963	Paraguay	1.2491
Angola	0.0313	Guatemala	0.6021	Peru	0.4527
Argentina	0.1130	Guyana	4.2887	Philippines	0.0846
Australia	11.2673	Haiti	0.1047	Poland	3.5236
Austria	1.3845	Honduras	0.2719	Portugal	1.6119
Bahamas	21.6547	Hong Kong SAR	2.9375	Qatar	6.3316
Bahrain	7.4271	Hungary	1.1611	Republic of Korea	1.9931
Bangladesh	0.4259	Iceland	1.9228	Republic of Palau	7.2500
Barbados	31.3806	India	0.1475	Romania	3.3443
Belgium	2.4745	Indonesia	0.1838	Rwanda	0.0195
Benin	0.3502	Iran (Islamic Republic of)	1.2520	Saint Helena	3.8000
Brazil	4.3179	Iraq	0.1198	Saint Lucia	5.0544
British Virgin Islands	15.3000	Ireland	3.6582	Saint Vincent & the Grenadines	11.6441
Brunei Darussalam	2.4006	Israel	4.8001	Saudi Arabia	2.6825
Bulgaria	1.8590	Italy	0.4013	Serbia and Montenegro	0.5807
Burkina Faso	0.0073	Jamaica	5.1982	Seychelles	2.9375
Burundi	0.1279	Japan	0.3942	Sierra Leone	1.7501
Cambodia	0.0058	Jordan	4.6126	Singapore	2.9160
Cameroon	0.0032	Kenya	0.5451	Slovakia	2.4386
Canada	12.9794	Kuwait	4.2796	Slovenia	1.1569
Cape Verde	0.8674	Lao Peop. Dem. Rep.	0.2351	Solomon Islands	0.9556
Cayman Islands	34.5263	Latvia	0.1361	South Africa	8.2058
Chad	0.0438	Lebanon	2.4170	Spain	2.1920
Chile	1.5159	Lesotho	1.8763	Sri Lanka	1.1013
China	1.6992	Libyan Arab Jamahiriya	2.9963	Suriname	1.0420
Colombia	1.0217	Lithuania	1.5672	Swaziland	0.9452
Comoros	0.2479	Luxembourg	0.1134	Sweden	0.2574
Cook Islands	13.3333	Macao	1.3956	Switzerland	10.2083
Costa Rica	0.5121	Malaysia	3.9287	Syrian Arab Republic	0.8682
Croatia	0.7512	Maldives	0.9133	Thailand	1.2418
Cyprus	4.7186	Malta	2.4297	Togo	0.2247
Czech Republic	7.7340	Marshall Islands	1.0192	Tonga	2.8725
Dem. Rep. of the Congo	0.0210	Mauritius	1.2003	Tunisia	0.4684
Denmark	16.2239	Montserrat	0.6667	Turkey	2.1626
Dominica	9.5000	Mozambique	0.1050	Turks and Caicos Islands	4.1053
Dominican Republic	0.0001	Myanmar	0.0303	Tuvalu	1.4000
El Salvador	1.3455	Namibia	1.5560	Uganda	0.6464
Eritrea	0.2022	Nepal	0.0275	United Arab Emirates	2.8482
Estonia	3.3644	Netherlands	0.0972	United Kingdom	4.7962
Ethiopia	0.0315	Netherlands Antilles	1.9862	U.S.A.	20.3278
Falkland Islands	7.0000	New Zealand	11.8912	Vanuatu	0.6287
Finland	1.0725	Nigeria	0.0364	Viet Nam	0.4696
France	0.1452	Norway	6.4862	Yemen	0.1611
French Polynesia	0.2025	Oman	1.1722	Zambia	0.1211
Germany	2.0883	Gibraltar	12.2963		

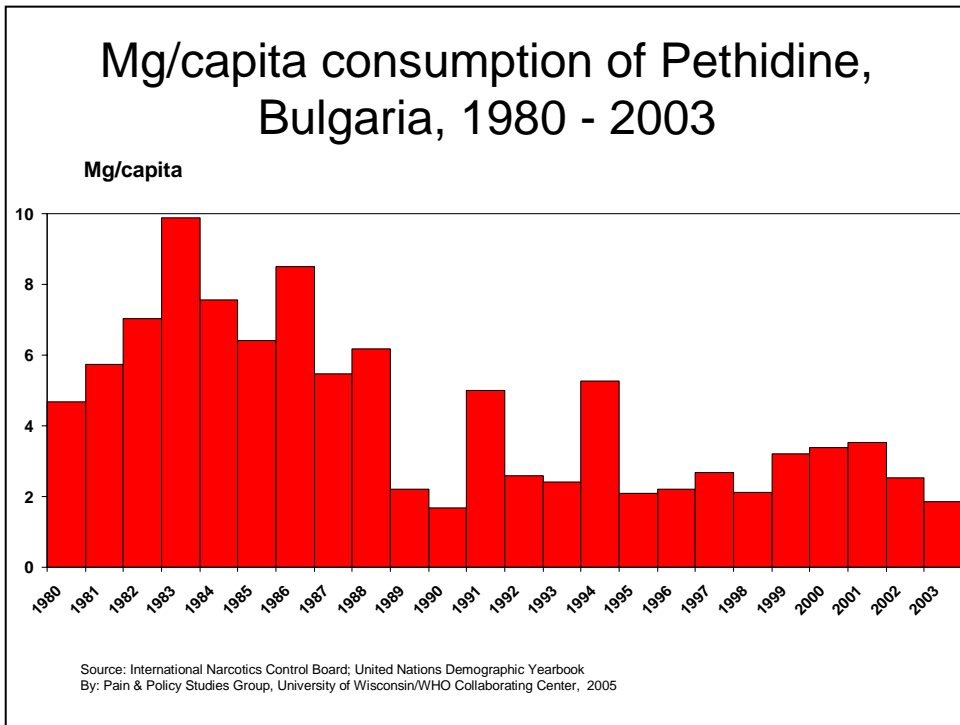
Note: Countries not represented on this list did not report consumption statistics to the INCB for 2003.

Bosnia and Herzegovina has reported only one year of Morphine consumption to the INCB, which is 0.3759 mg/capita for the year 2000.

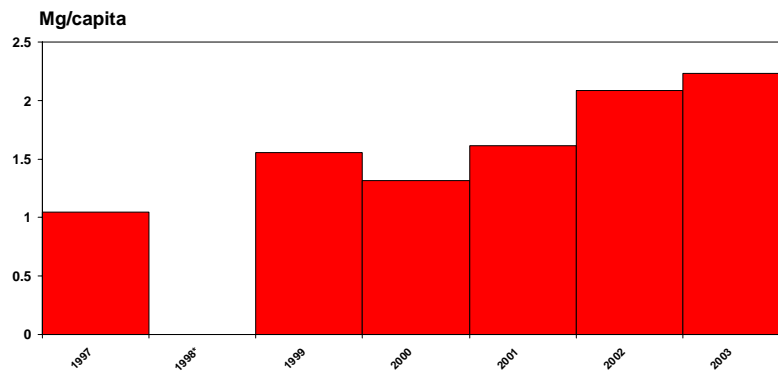
Bosnia and Herzegovina has reported only one year of Pethidine consumption to the INCB, which is 0.0322 mg/capita for the year 2000.



**Note:** Mg/capita scale varies among countries



## Mg/capita Consumption of Morphine, Georgia, 1997-2003†

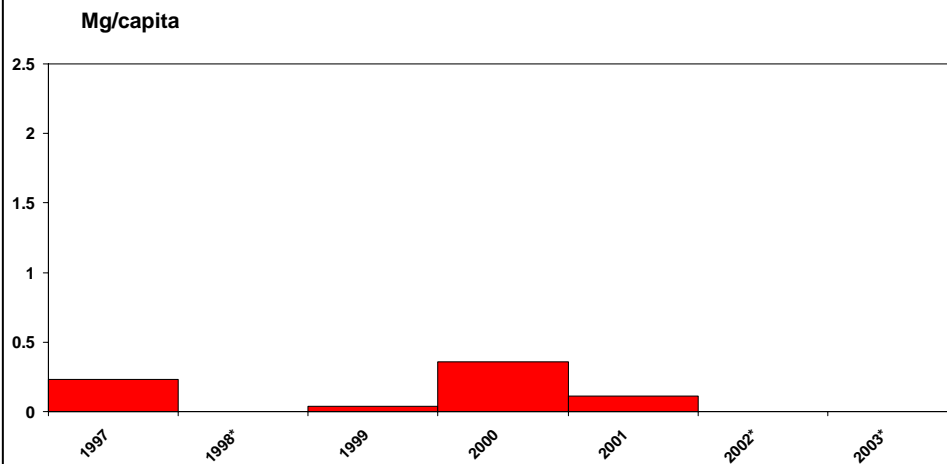


\* No report  
Sources: International Narcotics Control Board; United Nations Demographic Yearbook  
By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2005

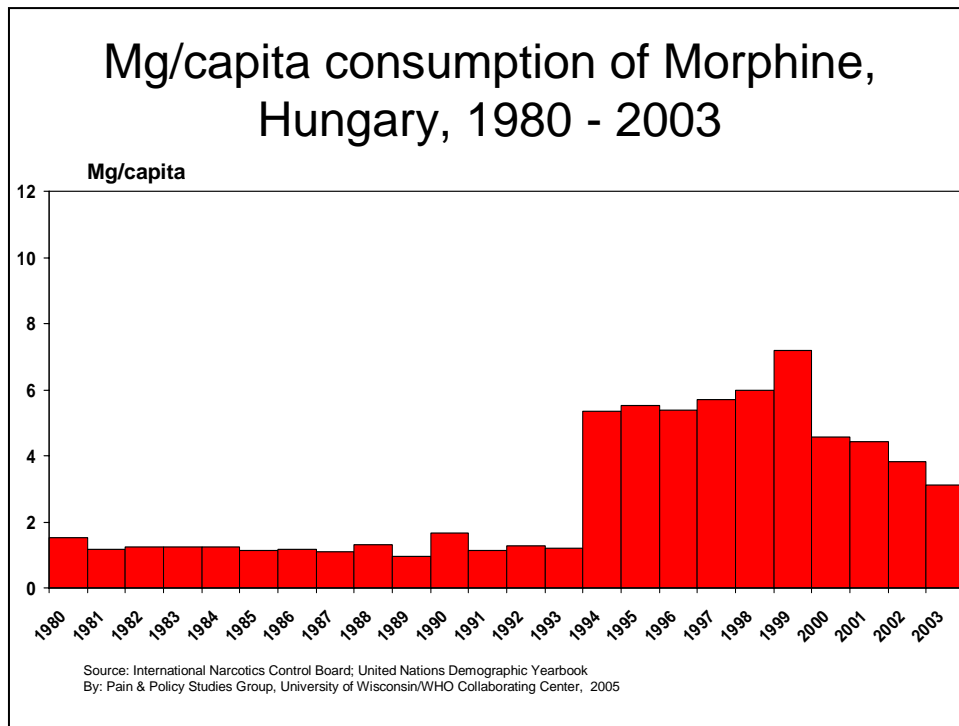
**Note:** Mg/capita scale varies among countries

† Period for which data are available

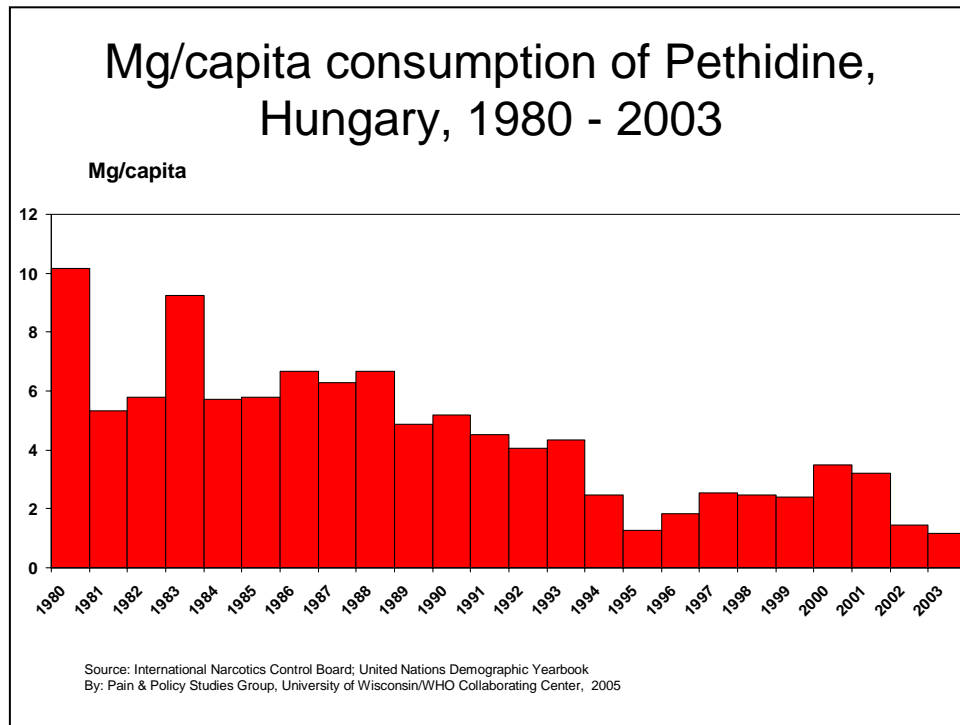
## Mg/capita consumption of Pethidine, Georgia, 1997 - 2003†

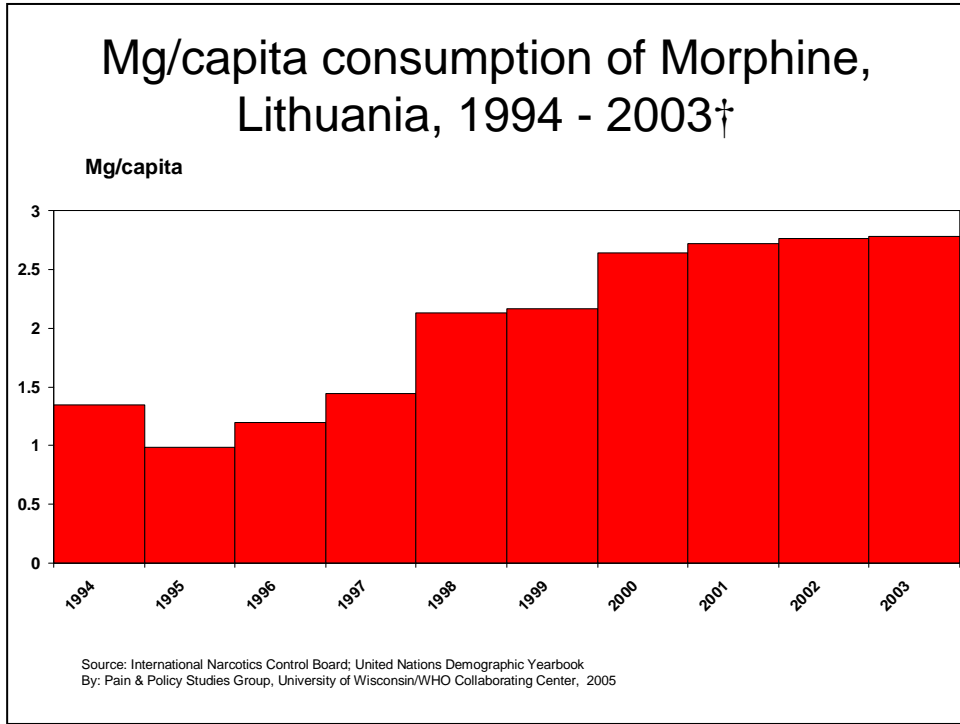


\* No report  
Source: International Narcotics Control Board; United Nations Demographic Yearbook  
By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2005



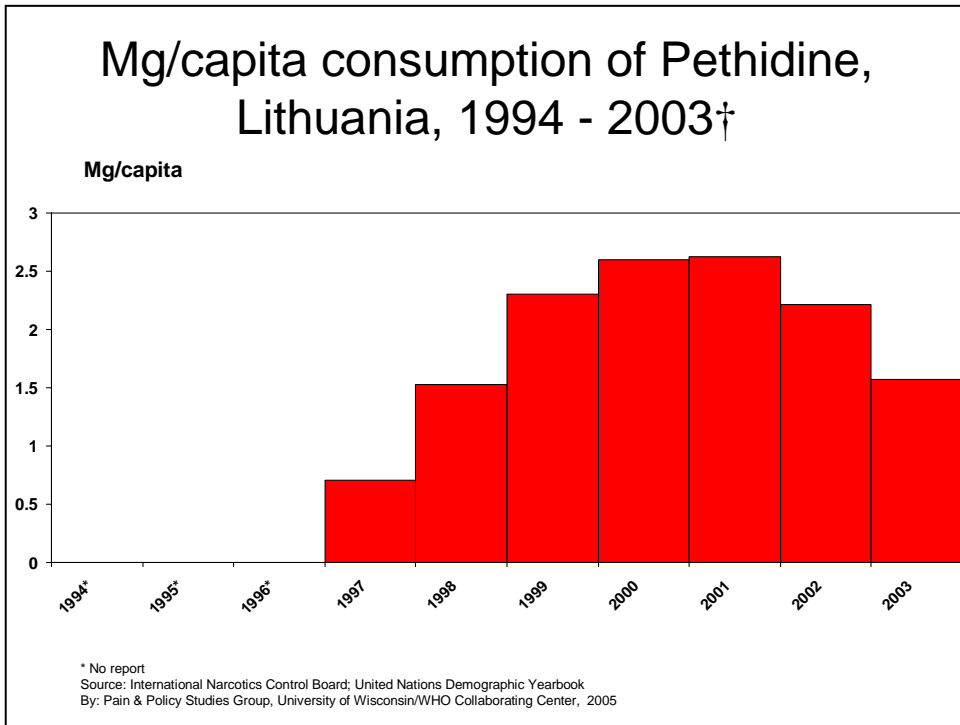
**Note:** Mg/capita scale varies among countries



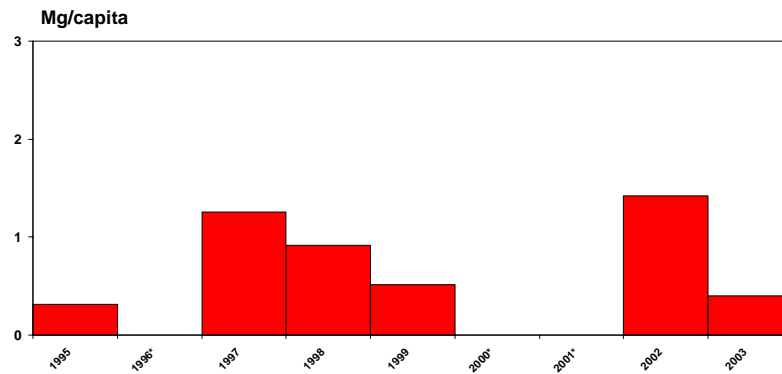


**Note:** Mg/capita scale varies among countries

† Period for which data are available



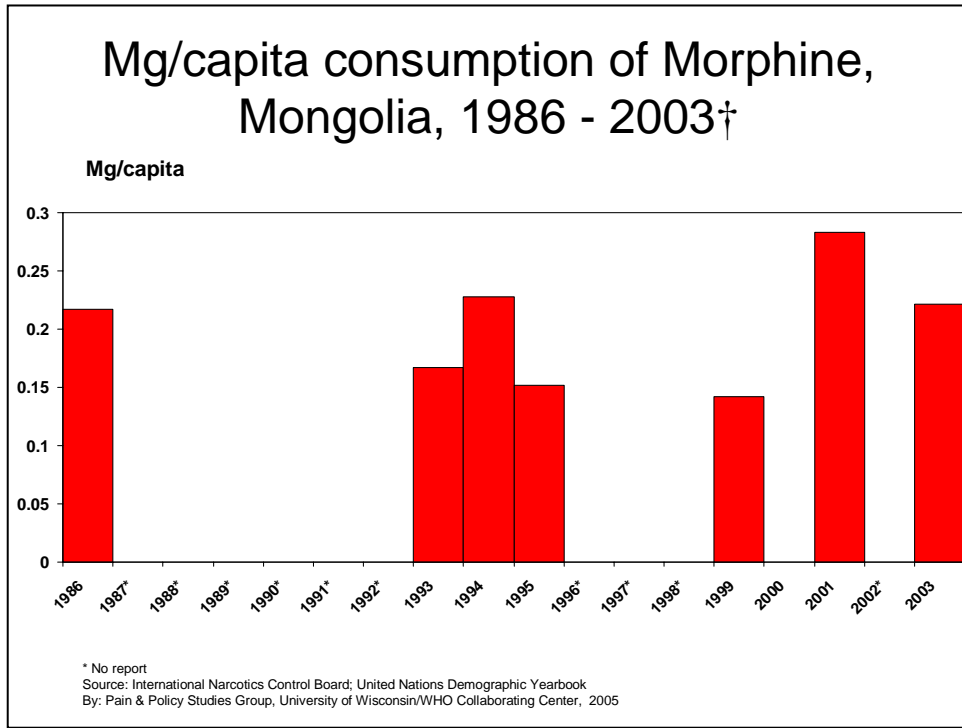
## Mg/capita Consumption of Morphine, Republic of Moldova, 1995 - 2003†



\* No report  
Source: International Narcotics Control Board; United Nations Demographic Yearbook  
By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2005

**Note:** Mg/capita scale varies among countries  
† Period for which data are available

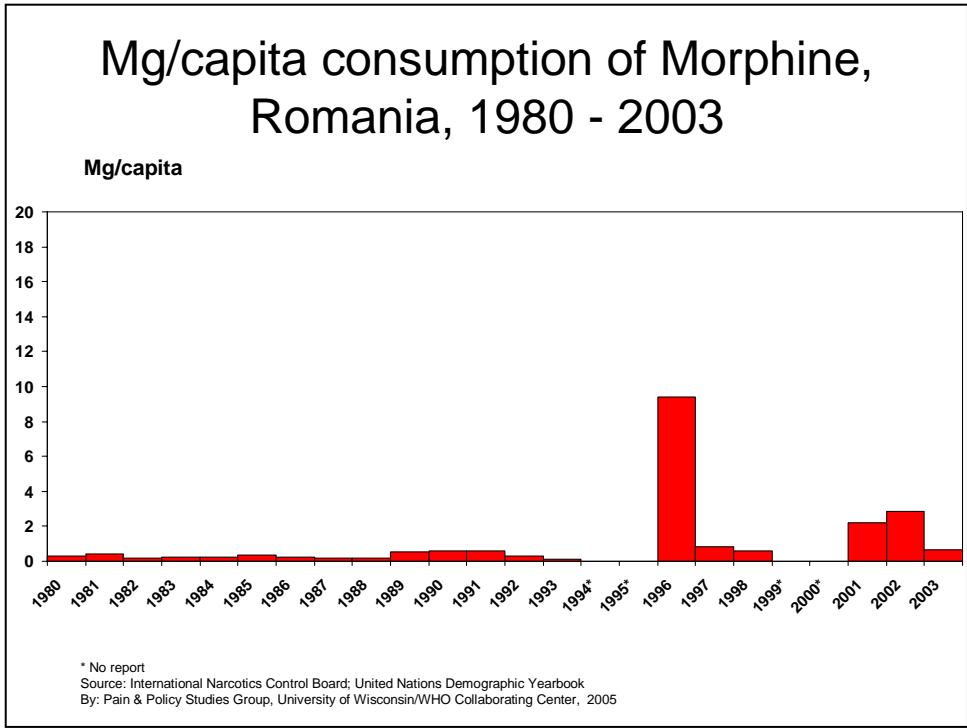
The Republic of Moldova has not reported any  
Pethidine consumption to the INCB



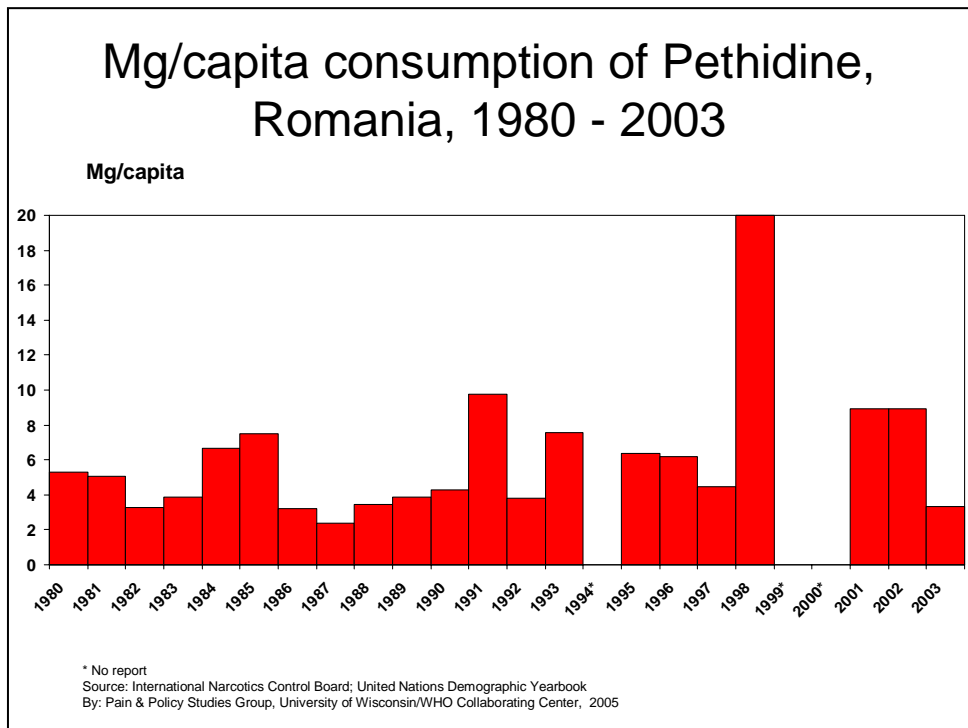
**Note:** Mg/capita scale varies among countries

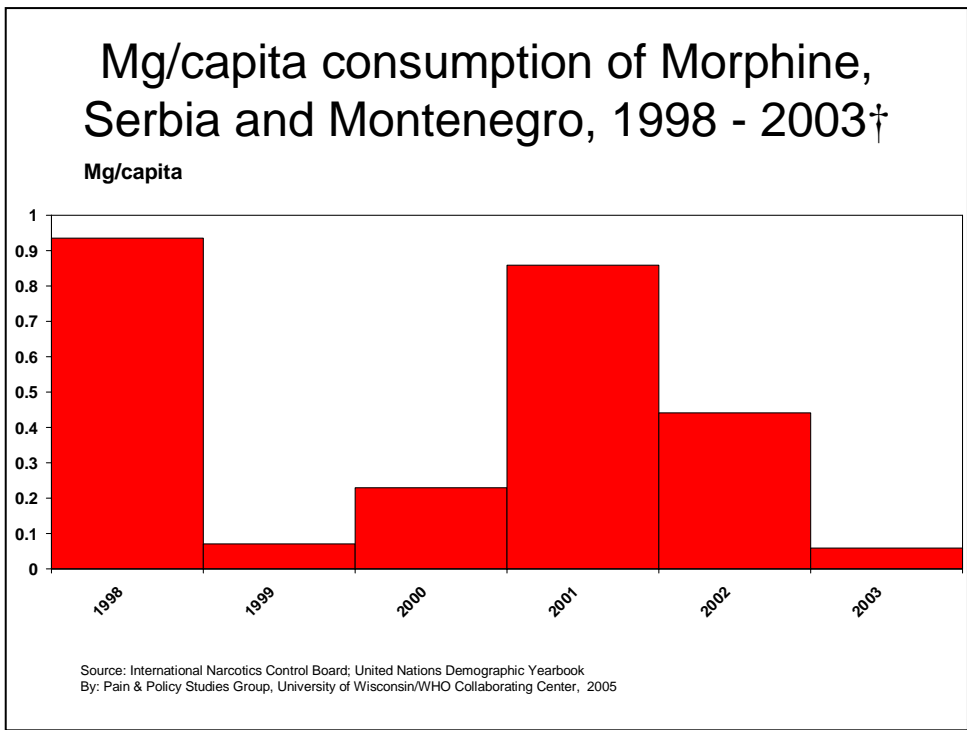
† Period for which data are available

Mongolia has not reported any Pethidine  
consumption to the INCB

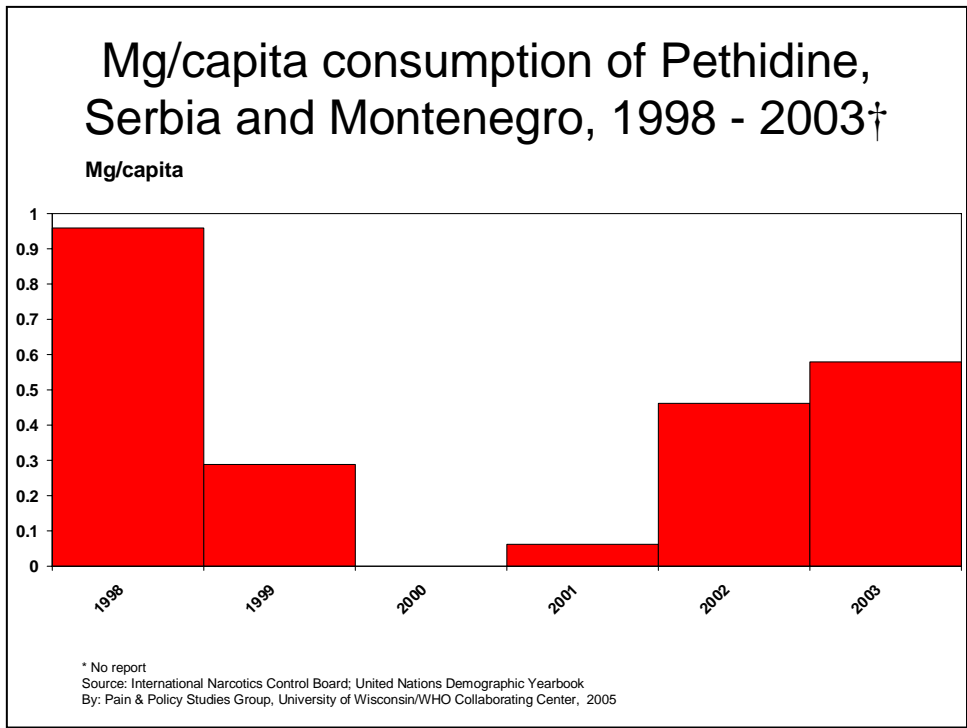


**Note:** Mg/capita scale varies among countries

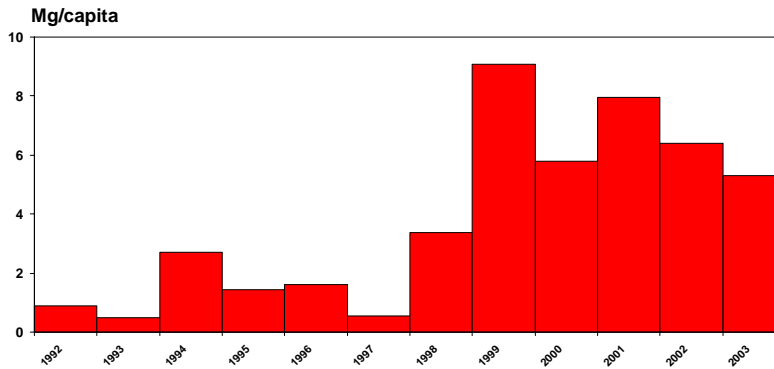




**Note:** Mg/capita scale varies among countries  
 † Period for which data are available



## Mg/capita Consumption of Morphine, Slovenia, 1992-2003†

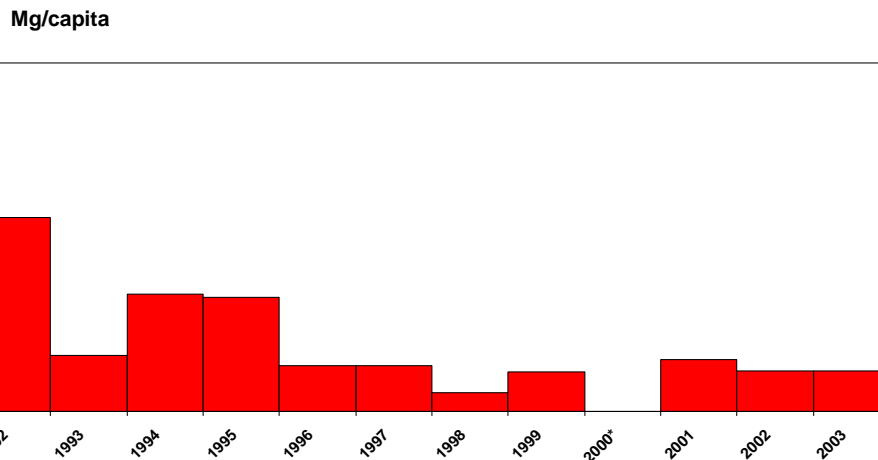


Source: International Narcotics Control Board; United Nations Demographic Yearbook  
 By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2005

**Note:** Mg/capita scale varies among countries

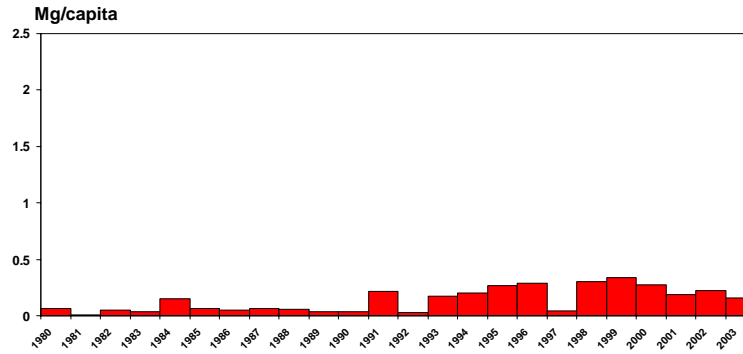
† Period for which data are available

## Mg/capita consumption of Pethidine, Slovenia, 1992 - 2003†



\* No report  
 Source: International Narcotics Control Board; United Nations Demographic Yearbook  
 By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2005

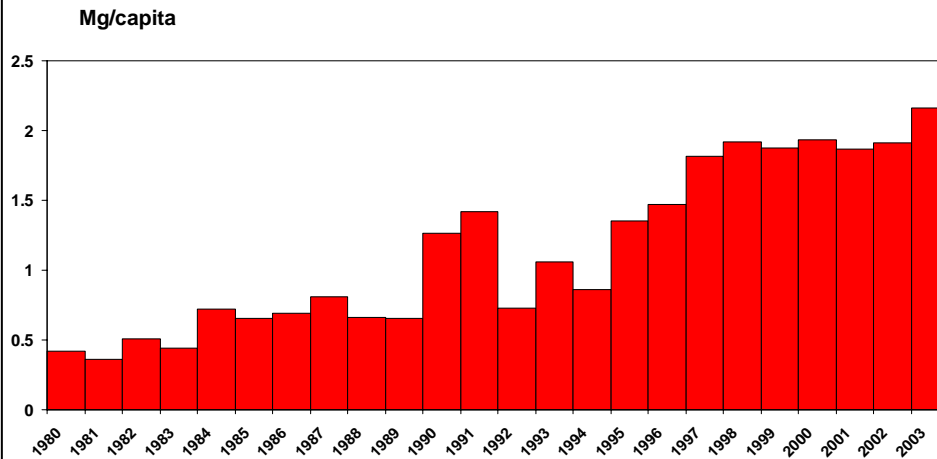
## Mg/capita Consumption of Morphine, Turkey, 1980-2003



Source: International Narcotics Control Board; United Nations Demographic Yearbook  
By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2005

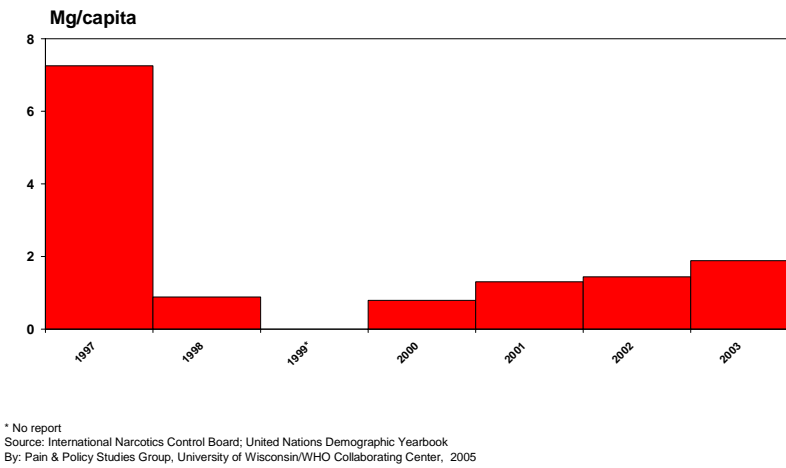
Note: Mg/capita scale varies among countries

## Mg/capita consumption of Pethidine, Turkey, 1980 - 2003



Source: International Narcotics Control Board; United Nations Demographic Yearbook  
By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2005

## Mg/capita Consumption of Morphine, Ukraine, 1997-2003†



**Note:** Mg/capita scale varies among countries  
† Period for which data are available

The Ukraine has not reported any Pethidine consumption to the INCB

### Status of adherence to conventions, Receipt of statistics, and estimates

	Adherence		Consumption statistics for 2003	Estimated requirements for 2005
	Single convention 1961	As amended 1961/72		
Bosnia and Herzegovina	•	•		
Bulgaria	•	•	•	•
Georgia	•	•	•	•
Hungary	•	•	•	•
Lithuania	•	•	•	•
Moldova	•	•	•	•
Mongolia	•	•	•	•
Romania	•	•	•	
Serbia and Montenegro	•	•	•	
Slovenia	•	•	•	
Turkey	•	•	•	•
Ukraine	•	•	•	•

### Consumption of Selected Opioid Analgesics, 2003 (mg/capita)

	Fentanyl	Methadone	Morphine	Oxycodone	Pethidine
Global mean	0.11	8.47	5.85	6.2	3.28
Europe Regional mean	0.26	12.01	10.58	4.44	3.08
Bosnia and Herzegovina					
Bulgaria	0.06	1.33	3.94	0.02	1.86
Georgia	0.003		2.23		
Hungary	0.25	0.54	3.11	0.03	1.16
Lithuania	0.05	1.40	2.78		1.57
Moldova	0.003		0.40		
Mongolia			0.22		
Romania		0.18	0.66		3.34
Serbia and Montenegro	0.01	0.85	0.06		0.58
Slovenia	0.47	18.55	5.31	1.03	1.16
Turkey	0.03		0.16		2.16
Ukraine	0.01		1.88		

**Estimated requirements for selected opioids, 2005 (in grams)**

<b>Country</b>	<b>Fentanyl</b>	<b>Methadone</b>	<b>Morphine</b>	<b>Oxycodone</b>	<b>Pethidine</b>
<b>Bosnia and Herzegovina</b>	<b>8</b>	<b>4,416</b>	<b>11,250</b>		<b>32</b>
<b>Bulgaria</b>	<b>400</b>	<b>25,000</b>	<b>50,000</b>	<b>2,000</b>	<b>30,000</b>
<b>Georgia</b>	<b>40</b>	<b>4,500</b>	<b>19,000</b>		
<b>Hungary</b>	<b>4,340</b>	<b>8,000</b>	<b>9,040,000</b>	<b>11,000</b>	<b>15,000</b>
<b>Lithuania</b>	<b>483</b>	<b>10,000</b>	<b>13,000</b>		<b>8,000</b>
<b>Moldova</b>	<b>50</b>	<b>6,000</b>	<b>6,500</b>		<b>3,000</b>
<b>Mongolia</b>	<b>2</b>		<b>13,257</b>		
<b>Romania</b>	<b>600</b>	<b>15,000</b>	<b>105,000</b>	<b>8,500</b>	<b>100,000</b>
<b>Serbia and Montenegro</b>	<b>549</b>	<b>20,000</b>	<b>20,000</b>		<b>7,400</b>
<b>Slovenia</b>	<b>2,651</b>	<b>42,000</b>	<b>25,300</b>	<b>2,870</b>	<b>5,500</b>
<b>Turkey</b>	<b>3,800</b>	<b>1</b>	<b>23,000</b>		<b>200,001</b>
<b>Ukraine</b>	<b>800</b>		<b>851,000</b>		

## Selected Bibliography

- Blengini C, Joranson DE, Ryan KM. Italy reforms national policy for cancer pain relief and opioids. *European Journal of Cancer Care*. 2003; 12(1):28-34. (Available through <http://www.medsch.wisc.edu/painpolicy/publicat/03ejcc/index.htm>.)
- Colleau SM. Highlights of the INCB report. *Cancer Pain Release*. 1996;9(Suppl):1-4.
- Colleau SM. New World Health Organization opioid guidelines put into action. *Cancer Pain Release*. 2001;14(1)
- International Narcotics Control Board. Estimated world requirements of narcotic drugs for 2004. New York, NY: United Nations, 2004.
- Joranson DE. *Status of worldwide opioid availability*. University of Wisconsin Pain & Policy Studies Group/WHO Collaborating Center for Policy and Communications in Cancer Care; Madison, WI, USA. 10th International Symposium Supportive Care in Cancer; San Antonio, TX; March 14-17, 1998 (Poster).
- Joranson DE, Rajagopal MR, Gilson AM. Improving access to opioid analgesics for palliative care in India. *Journal of Pain and Symptom Management*. 2002; 24(2):152-159. (Available through <http://www.medsch.wisc.edu/painpolicy/publicat/02jpsm3/index.htm>.)
- MacDonald DM, Finley GA. Governmental barriers to opioid availability in developing countries. *Journal of Pharmaceutical Care Pain and Symptom Control*. 2001;9(1):5-23.
- Pain & Policy Studies Group. Improving Cancer Pain Relief in the World: Report for 2004. Madison, Wisconsin, USA: University of Wisconsin Pain & Policy Studies Group/WHO Collaborating Center for Policy and Communications in Cancer Care; 2005. (Available through <http://www.medsch.wisc.edu/painpolicy/publicat/annrepts.htm>.)
- Rajagopal MR, Joranson DE, Gilson AM. Medical use, misuse, and diversion of opioids in India. *Lancet*. 2001;358(9276):139-143. (Available through <http://www.medsch.wisc.edu/painpolicy/publicat/01lancet/contents.htm>.)
- Selva C. International control of opioids for medical use. *European Journal of Palliative Care*. 1997;4(6):194-198.
- World Health Organization. *Achieving Balance in National Opioids Control Policy: Guidelines for Assessment*. Geneva: WHO, 2000. (Available in 12 languages through <http://www.medsch.wisc.edu/painpolicy/publicat/00whoabi/00whoabi.htm>.)

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