

# Global scorecard of iodine nutrition in 2019

## in the general population based on school-age children (SAC)<sup>1</sup>

Based on the most recent available median urinary iodine concentration (UIC) data from 194 WHO Member States plus Liechtenstein and Palestine. Countries in which the most recent available survey is older than 15 years (i.e., conducted prior to 2004), are marked with an asterisk (\*).

**Abbreviations:** SAC, School-age children; WRA, Women of reproductive age; P, Date published; N, Nationally-representative survey; S, Sub-national survey (all administrative levels); SP, Sub-national surveys, pooled median UIC

Country or territory	Total population (2018)	Median UIC (µg/L)	Date of survey	Data type	Population surveyed	Iodine intake <sup>2,3</sup>
Afghanistan	36,373,176	171	2013	N	SAC (7-12)	Adequate
Albania	2,934,363	100	2012	N	SAC (6-13)	Adequate
Algeria	42,008,054	241	2006-09, 2017	SP	WRA	Adequate
Andorra	76,953	-	-	-	-	-
Angola	30,774,205	29	2006	S	SAC (8-10)	Insufficient
Antigua and Barbuda	103,050	174	2018	N	SAC	Adequate
Argentina	44,688,864	125	2004, 2005, 2007, 2009-12	SP	SAC (5-14)	Adequate
Armenia	2,934,152	242	2017	N	SAC (10-12)	Adequate
Australia	24,772,247	177	2011-12	N	SAC (5-11)	Adequate
Austria	8,751,820	111	2012	N	SAC (7-14)	Adequate
Azerbaijan	9,923,914	204	2007	N	SAC (8-10)	Adequate
Bahamas	399,285	-	-	-	-	-
Bahrain	1,566,993	247	2012-13	N	SAC (6-12)	Adequate
Bangladesh	166,368,149	146	2011-12	N	SAC (6-12)	Adequate
Barbados	286,388	207	2018	N	SAC	Adequate
Belarus	9,452,113	191	2018	N	SAC (9-13)	Adequate
Belgium	11,498,519	113	2010-11	N	SAC (6-12)	Adequate
Belize	382,444	293	2018	N	SAC	Adequate
Benin	11,485,674	318	2011	N	SAC (6-12)	Excessive
Bhutan	817,054	183	2010	N	SAC (6-11)	Adequate
Bolivia	11,215,674	191	2005	N	SAC	Adequate
Bosnia and Herzegovina	3,503,554	157	2005	N	SAC (8-10)	Adequate
Botswana*	2,333,201	287	1994	N	SAC	Adequate
Brazil	210,867,954	276	2016	N	SAC	Adequate
Brunei Darussalam	434,076	-	-	-	-	-
Bulgaria	7,036,848	182	2008	N	SAC (7-11)	Adequate
Burkina Faso	19,751,651	99	2014	N	SAC	Insufficient
Burundi	11,216,450	70	2005	N	SAC (7-12)	Insufficient
Cabo Verde	553,335	115	2010	N	SAC (6-12)	Adequate
Cambodia	16,245,729	236	2011	N	SAC (8-10)	Adequate
Cameroon	24,678,234	>300 (sample size unknown)	2014, 2017, 2018	SP	SAC	Excessive
Canada	36,953,765	174	2007-09	N	SAC (9-13)	Adequate
Central African Republic*	4,737,423	21	1993	S	All	Insufficient
Chad*	15,353,184	213	2003	N	SAC (6-12)	Adequate
Chile	18,197,209	252	2006	N	SAC	Adequate
China	1,415,045,928	198	2014	N	SAC (8-10)	Adequate
Colombia	49,464,683	565	2009-10	S	Adults (>35)	Excessive
Comoros	832,347	-	-	-	-	-
Congo	5,399,895	-	-	-	-	-
Congo, The Democratic Republic of the	84,004,989	249	2007	N	SAC (6-12)	Adequate
Cook Islands	17,411	-	-	-	-	-
Costa Rica	4,953,199	314	2008-09	N	SAC	Excessive

Country or territory	Total population (2018)	Median UIC (µg/L)	Date of survey	Data type	Population surveyed	Iodine intake <sup>2,3</sup>
Cote d'Ivoire	24,905,843	203	2004	N	SAC (6-12)	Adequate
Croatia	4,164,783	248	2009	N	SAC (7-11)	Adequate
Cuba	11,489,082	176	2011-12	N	SAC (6-11)	Adequate
Cyprus*	1,189,085	120	2000 (P)	S	SAC (6-10)	Adequate
Czechia	10,625,250	163	2010	N	SAC	Adequate
Denmark	5,754,356	145	2015	S	SAC	Adequate
Djibouti	971,408	335	2015	N	SAC	Excessive
Dominica	74,308	203	2018	N	SAC	Adequate
Dominican Republic	10,882,996	223	2012	N	SAC	Adequate
Ecuador	16,863,425	162	2014	N	SAC	Adequate
Egypt	99,375,741	170	2014-15	N	SAC	Adequate
El Salvador	6,411,558	206	2012	N	SAC	Adequate
Equatorial Guinea	1,313,894	564	2007	S	SAC	Excessive
Eritrea*	5,187,948	175	1998	N	SAC (6-12)	Adequate
Estonia*	1,306,788	65	1995	N	SAC (8-10)	Insufficient
Ethiopia	107,534,882	104	2015	N	SAC	Adequate
Fiji	912,241	237	2009 (P)	S	SAC (8-12)	Adequate
Finland	5,542,517	83	2013	N	Adults (25-64)	Insufficient
France	65,233,271	136	2006-07	N	Adults (18-74)	Adequate
Gabon	2,067,561	196	2007	S	SAC	Adequate
Gambia	2,163,765	143	2018	N	WRA (15-49)	Adequate
Georgia	3,907,131	298	2017	N	SAC (8-10)	Adequate
Germany	82,293,457	122	2003-06	N	SAC (6-12)	Adequate
Ghana	29,463,643	130	2011	N	SAC (6-12)	Adequate
Greece	11,142,161	132	2017, 2018 (P)	SP	Adults	Adequate
Grenada	108,339	142	2018	N	SAC	Adequate
Guatemala	17,245,346	144	2005	N	SAC	Adequate
Guinea*	13,052,608	139	2003	N	SAC, Adolescents (6-16)	Adequate
Guinea-Bissau	1,907,268	110	2017 (P)	S	SAC (6-14)	Adequate
Guyana*	782,225	169	1996	N	SAC	Adequate
Haiti	11,112,945	84	2004-05	N	SAC	Insufficient
Honduras	9,417,167	356	2005	S	SAC	Excessive
Hungary	9,688,847	228	2005	S	SAC (10-14)	Adequate
Iceland	337,780	200	2007-08	S	Adolescent girls, WRA (16-20)	Adequate
India	1,354,051,854	158	2014-15	N	WRA	Adequate
Indonesia	266,794,980	223	2013	N	SAC (6-12)	Adequate
Iran, Islamic Republic of	82,011,735	161	2013-14	N	SAC (8-10)	Adequate
Iraq	39,339,753	84	2011-12	N	SAC (6-12)	Insufficient
Ireland	4,803,748	111	2014-15	N	Adolescent girls (14-15)	Adequate
Israel	8,452,841	83	2016	N	SAC	Insufficient
Italy	59,290,969	71	2004, 2007, 2009, 2010, 2012, 2015	SP	SAC	Insufficient
Jamaica	2,898,677	238	2018	N	SAC	Adequate
Japan	127,185,332	265	2013-17	N	SAC (6-12)	Adequate
Jordan	9,903,802	203	2010	N	SAC (8-10)	Adequate
Kazakhstan	18,403,860	183	2011	N	WRA (15-49)	Adequate
Kenya	50,950,879	208	2011	N	SAC (5-14)	Adequate
Kiribati	118,414	-	-	-	-	-
Korea, DPR of	25,610,672	97	2009-10	N	SAC (6-12)	Insufficient
Korea, Republic of	51,164,435	432	2013-15	N	SAC, Adolescents (10-18)	Excessive
Kuwait	4,197,128	130	2014	N	SAC (6-12)	Adequate
Kyrgyzstan	6,132,932	114	2007	N	SAC (8-10)	Adequate
Lao People's Democratic Republic	6,961,210	103	2013	N	SAC	Adequate

Country or territory	Total population (2018)	Median UIC (µg/L)	Date of survey	Data type	Population surveyed	Iodine intake <sup>2,3</sup>
Latvia	1,929,938	110	2010-11	N	SAC (9-12)	Adequate
Lebanon	6,093,509	66	2013	N	SAC	Insufficient
Lesotho*	2,263,010	215	2002	N	SAC (8-12)	Adequate
Liberia	4,853,516	244	2011	N	SAC	Adequate
Libya	6,470,956	-	-	-	-	-
Liechtenstein	38,155	96	2010	N	SAC (6-12)	Adequate
Lithuania*	2,876,475	75	1995	N	SAC	Insufficient
Luxembourg*	590,321	148	2002	N	SAC, Adolescents (12-14)	Adequate
Madagascar	26,262,810	46	2015	N	WRA	Insufficient
Malawi	19,164,728	269	2015-16	N	SAC (5-10)	Adequate
Malaysia	32,042,458	109	2008	N	SAC (8-10)	Adequate
Maldives	444,259	176	2007	N	SAC (6-12)	Adequate
Mali	19,107,706	69	2005	N	SAC (6-12)	Insufficient
Malta	432,089	-	-	-	-	-
Marshall Islands	53,167	-	-	-	-	-
Mauritania	4,540,068	179	2012	N	SAC	Adequate
Mauritius*	1,268,315	160	1995	N	Adults	Adequate
Mexico	130,759,074	264	2010-11, 2012	SP	SAC	Adequate
Micronesia, Federated States of	106,227	-	-	-	-	-
Moldova, Republic of	4,041,065	204	2012	N	SAC	Adequate
Monaco	38,897	-	-	-	-	-
Mongolia	3,121,772	145	2017	N	SAC (6-11)	Adequate
Montenegro	629,219	174	2007	N	SAC (6-11)	Adequate
Morocco	36,191,805	96	2018	S	SAC, Adolescents	Insufficient
Mozambique	30,528,673	60	2004	N	SAC (6-12)	Insufficient
Myanmar	53,855,735	124	2006	N	SAC (6-11)	Adequate
Namibia*	2,587,801	216	1998-99	N	SAC (8-12)	Adequate
Nauru	11,312	142	2015	N	SAC	Adequate
Nepal	29,624,035	314	2016	N	SAC (6-9)	Excessive
Netherlands	17,084,459	130	2006	S	Adults (50-72)	Adequate
New Zealand	4,749,598	115	2011, 2015	SP	SAC (8-10)	Adequate
Nicaragua	6,284,757	196	2007	N	SAC	Adequate
Niger	22,311,375	101	2015	S	SAC	Adequate
Nigeria	195,875,237	130	2004-05	N	SAC (9-12)	Adequate
Niue	1,624	-	-	-	-	-
Norway	5,353,363	75	2017-18	S	WRA (19-29)	Insufficient
Oman	4,829,946	191	2014	N	SAC (6-12)	Adequate
Pakistan	200,813,818	124	2011	N	SAC (6-12)	Adequate
Palau	21,964	-	-	-	-	-
Palestine	5,052,776	193	2013	N	SAC (7-12)	Adequate
Panama	4,162,618	291	2015 (P)	N	SAC	Adequate
Papua New Guinea	8,418,346	170	2005	N	WRA (15-49)	Adequate
Paraguay	6,896,908	296	2015	N	SAC	Adequate
Peru	32,551,815	262	2009	N	SAC	Adequate
Philippines	106,512,074	168	2013	N	SAC (6-12)	Adequate
Poland	38,104,832	112	2009-11	S	SAC (6-12)	Adequate
Portugal	10,291,196	106	2010	N	SAC	Adequate
Qatar	2,694,849	341	2014	N	SAC (6-12)	Excessive
Romania	19,580,634	102	2004-05	N	SAC (6-7)	Adequate
Russian Federation	143,964,709	88	2008, 2010, 2012	SP	SAC	Insufficient
Rwanda*	12,501,156	298	1996	N	SAC, Adolescents (5-19)	Adequate
Saint Kitts and Nevis	55,850	204	2018	N	SAC	Adequate
Saint Lucia	179,667	141	2018	N	SAC	Adequate

Country or territory	Total population (2018)	Median UIC (µg/L)	Date of survey	Data type	Population surveyed	Iodine intake <sup>2,3</sup>
Saint Vincent and the Grenadines	110,200	132	2018	N	SAC	Adequate
Samoa	197,695	88	2013	N	WRA	Insufficient
San Marino	33,557	-	-	-	-	-
Sao Tome and Principe	208,818	-	-	-	-	-
Saudi Arabia	33,554,343	133	2012	N	SAC (8-10)	Adequate
Senegal	16,294,270	104	2010	N	SAC (6-12)	Adequate
Serbia	8,762,027	195	2007	N	SAC (6-14)	Adequate
Seychelles	95,235	-	-	-	-	-
Sierra Leone	7,719,729	203	2013	N	WRA	Adequate
Singapore	5,791,901	-	-	-	-	-
Slovakia*	5,449,816	183	2002	N	SAC (6-12)	Adequate
Slovenia	2,081,260	140	2003-05	N	Adolescents (15-16)	Adequate
Solomon Islands	623,281	328	2007	S	SAC (6-12)	Excessive
Somalia	15,181,925	417	2009	N	SAC	Excessive
South Africa	57,398,421	215	2005	N	SAC (6-9)	Adequate
South Sudan	12,919,053	94	2006	S	SAC (6-12)	Insufficient
Spain	46,397,452	173	2011-12	N	SAC	Adequate
Sri Lanka	20,950,041	233	2016	N	SAC (6-12)	Adequate
Sudan	41,511,526	66	2006	S	SAC (6-12)	Insufficient
Suriname	568,301	-	-	-	-	-
Swaziland*	1,391,385	120	1998, 1999 (P)	SP	SAC (6-12)	Adequate
Sweden	9,982,709	125	2006-07	N	SAC (6-12)	Adequate
Switzerland	8,544,034	137	2015	N	SAC (6-12)	Adequate
Syrian Arab Republic	18,284,407	-	-	-	-	-
Tajikistan	9,107,211	139	2009	N	SAC	Adequate
Tanzania, United Republic of	59,091,392	204	2004	N	SAC, Adolescents (6-18)	Adequate
TFYR Macedonia	2,085,051	241	2007	N	SAC	Adequate
Thailand	69,183,173	262	2012	N	SAC	Adequate
Timor-Leste	1,324,094	170	2013	N	WRA	Adequate
Togo	7,990,926	171	2005	N	SAC (6-12)	Adequate
Tonga	109,008	-	-	-	-	-
Trinidad and Tobago	1,372,598	314	2018	N	SAC	Excessive
Tunisia	11,659,174	220	2013	N	SAC (6-12)	Adequate
Turkey	81,916,871	107	2007	N	SAC (6-14)	Adequate
Turkmenistan	5,851,466	170	2004	N	SAC (8-10)	Adequate
Tuvalu	11,287	-	-	-	-	-
Uganda	44,270,563	464	2005	N	SAC (6-12)	Excessive
Ukraine*	44,009,214	90	2002	N	WRA (15-49)	Insufficient
United Arab Emirates	9,541,615	162	2008-09	N	SAC (6-12)	Adequate
United Kingdom	66,573,504	138	2013-14	N	SAC, Adolescents (4-18)	Adequate
United States of America	326,766,748	190	2011-14	N	SAC (6-11)	Adequate
Uruguay	3,469,551	248	2016	N	SAC	Adequate
Uzbekistan	32,364,996	141	2005	N	SAC (6-12)	Adequate
Vanuatu	282,117	77	2007	N	WRA	Insufficient
Venezuela	32,381,221	180	2011	N	SAC	Adequate
Viet Nam	96,491,146	84	2013-14	N	SAC (8-10)	Insufficient
Yemen	28,915,284	122	2015	N	SAC (6-12)	Adequate
Zambia	17,609,178	245	2011	N	SAC (7-12)	Adequate
Zimbabwe	16,913,261	220	2005	S	SAC	Adequate

## Notes

<sup>1</sup>In population monitoring of iodine status using urinary iodine concentration (UIC), school-age children (SAC) serve as a proxy for the general population, therefore preference has been given to studies carried out in SAC. The UIC data have been selected for each country in the following order of priority: data from the most recent known nationally representative survey carried out between 2004 and 2018 in (i) SAC, (ii) SAC and adolescents, (iii) adolescents, (iv) women of reproductive age, (v) other adults (excluding pregnant or lactating women), and (vi) other eligible populations. In the absence of recent national surveys, subnational data were used in the same order of priority. Sub-national UIC surveys are commonly carried out to provide a rapid assessment of population iodine status, but due to a lack of sampling rigor, they may over- or underestimate the iodine status at the national level and should be interpreted with caution.

<sup>2</sup>Many countries monitor iodine status in both school-age children (SAC) and in women of reproductive age (WRA) or adults. WHO defines adequate iodine intake in adults as a median UIC value  $\geq 100$   $\mu\text{g/L}$ . However, the scientific basis for this threshold is weak. Estimates based on populations other than SAC should be interpreted with caution.

<sup>3</sup>Adequate iodine intake in school-age children corresponds to median UIC values in the range 100-299  $\mu\text{g/L}$ , and includes categories previously referred to as "Adequate" (100-199  $\mu\text{g/L}$ ) and "More than adequate" (200-299  $\mu\text{g/L}$ ).

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