

# Global scorecard of iodine nutrition in 2020

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 2005), 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).

Country or territory	Median UIC (µg/L)	Date of survey	Data type	Population surveyed	Iodine intake <sup>2,3</sup>	References
Afghanistan	171	2013	N	SAC (7-12)	Adequate	(1)
Albania	100	2012	N	SAC (6-13)	Adequate	(2)
Algeria	254	2017	S	WRA	Adequate	(3, 4)
Andorra	-	-	-	-	-	-
Angola	107	2019	N	WRA (15-49)	Adequate	(5)
Antigua and Barbuda	174	2018	N	SAC	Adequate	(6)
Argentina	144	2010	S	SAC (5-14)	Adequate	(7)
Armenia	242	2017	N	SAC (10-12)	Adequate	(8, 9)
Australia	175	2011-12	N	SAC (5-11)	Adequate	(10)
Austria	111	2012	N	SAC (7-14)	Adequate	(11)
Azerbaijan	204	2007	N	SAC (8-10)	Adequate	(12)
Bahamas	-	-	-	-	-	-
Bahrain	247	2012-13	N	SAC (6-12)	Adequate	(13)
Bangladesh	146	2011-12	N	SAC (6-12)	Adequate	(14)
Barbados	210	2018	N	SAC	Adequate	(6)
Belarus	191	2018	N	SAC (9-13)	Adequate	(15)
Belgium	113	2010-11	N	SAC (6-12)	Adequate	(16)
Belize	285	2018	N	SAC	Adequate	(6)
Benin	318	2011	N	SAC (6-12)	Excessive	(17, 18)
Bhutan	183	2010	N	SAC (6-11)	Adequate	(19)
Bolivia	191	2005	N	SAC	Adequate	(20)
Bosnia and Herzegovina	157	2005	N	SAC (7-10)	Adequate	(21)
Botswana*	287	1994	N	SAC	Adequate	(22)
Brazil	276	2016	N	SAC (6-14)	Adequate	(23)
Brunei Darussalam	-	-	-	-	-	-
Bulgaria	182	2008	N	SAC (7-11)	Adequate	(24)
Burkina Faso	99	2014	N	SAC	Insufficient	(25)
Burundi	80	2018	N	WRA (15-49)	Insufficient	(26)
Cambodia	63	2014	N	WRA (15-49)	Insufficient	(27, 28)
Cameroon	>300	2014, 2017, 2018	S	SAC	Excessive	(29)
Canada	189	2011	N	SAC (6-11)	Adequate	(30)
Cape Verde	115	2010	N	SAC (6-12)	Adequate	(31)

Country or territory	Median UIC (µg/L)	Date of survey	Data type	Population surveyed	Iodine intake <sup>2,3</sup>	References
Central African Republic*	21	1993	S	All	Insufficient	(32)
Chad*	213	2003	N	SAC (6–12)	Adequate	(33)
Chile	252	2006	N	SAC	Adequate	(7)
China	198	2014	N	SAC (8–10)	Adequate	(34)
Colombia	407	2015-16	N	SAC	Excessive	(35)
Comoros	-	-	-	-	-	-
Congo	-	-	-	-	-	-
Congo, Democratic Republic of the	249	2007	N	SAC (6-12)	Adequate	(36)
Cook Islands	-	-	-	-	-	-
Costa Rica	314	2008-09	N	SAC	Excessive	(7)
Cote d'Ivoire*	203	2004	N	SAC (6-12)	Adequate	(37)
Croatia	248	2009	N	SAC (7-10)	Adequate	(38)
Cuba	176	2011-12	N	SAC (6-11)	Adequate	(39)
Cyprus*	140	2003	S	SAC (6-10)	Adequate	(40)
Czechia	163	2010	N	SAC	Adequate	(41)
Denmark	145	2015	S	SAC	Adequate	(42)
Djibouti	335	2015	N	SAC	Excessive	(43)
Dominica	203	2018	N	SAC	Adequate	(6)
Dominican Republic	223	2012	N	SAC	Adequate	(7)
Ecuador	215	2015-16	N	SAC	Adequate	(44)
Egypt	170	2014-15	N	SAC	Adequate	(45)
El Salvador	206	2012	N	SAC	Adequate	(7)
Equatorial Guinea	564	2007	S	SAC	Excessive	(46)
Eritrea*	175	1998	N	SAC (6-12)	Adequate	(47)
Estonia*	65	1995	N	SAC (8-10)	Insufficient	(48)
Ethiopia	104	2015	N	SAC	Adequate	(49)
Fiji	207	2016	N	WRA (25-45)	Adequate	(50)
Finland	96	2017	N	Adults (25-74)	Insufficient	(51)
France	136	2006-07	N	Adults (18-74)	Adequate	(52)
Gabon	196	2007	S	SAC	Adequate	(53)
Gambia	157	2018	N	NPW (15-49)	Adequate	(54)
Georgia	298	2017	N	SAC (8-10)	Adequate	(55)
Germany	89	2014-17	N	SAC, Adol (3-17)	Insufficient	(56)
Ghana	130	2011	N	SAC (6-12)	Adequate	(57, 58)
Greece	132	2017, 2018 (P)	S	Adults	Adequate	(59)
Grenada	144	2018	N	SAC	Adequate	(6)
Guatemala	139	2011	N	SAC	Adequate	(7)
Guinea*	139	2003	N	SAC, Adolescents (6-16)	Adequate	(60)
Guinea-Bissau	110	2017 (P)	S	SAC (6-14)	Adequate	(61)
Guyana*	169	1996	N	SAC	Adequate	(7)
Haiti	77	2018	N	WRA (15-49)	Insufficient	(62)

Country or territory	Median UIC (µg/L)	Date of survey	Data type	Population surveyed	Iodine intake <sup>2,3</sup>	References
Honduras	356	2005	S	SAC	Excessive	(7)
Hungary	228	2005	S	SAC (10-14)	Adequate	(63)
Iceland	200	2007-08	S	Adolescent girls (16–20)	Adequate	(64)
India	178	2019	N	WRA	Adequate	(65)
Indonesia	215	2013	N	SAC (6-12)	Adequate	(66, 67)
Iran, Islamic Republic of	161	2013-14	N	SAC (8–10)	Adequate	(68)
Iraq	84	2011-12	N	SAC (6-12)	Insufficient	(69)
Ireland	111	2014-15	N	Adolescent girls (14-15)	Adequate	(70)
Israel	83	2016	N	SAC	Insufficient	(71)
Italy	118	2015-19	S	SAC	Adequate	(72)
Jamaica	239	2018	N	SAC	Adequate	(6)
Japan	265	2013-17	N	SAC (6-12)	Adequate	(73)
Jordan	203	2010	N	SAC (8–10)	Adequate	(74)
Kazakhstan	183	2011	N	WRA (15-49)	Adequate	(75, 76)
Kenya	208	2011	N	SAC (5-14)	Adequate	(77)
Kiribati	-	-	-	-	-	-
Korea, Democratic People's Republic of	97	2009-10	N	SAC (6-12)	Insufficient	(78)
Korea, Republic of	449	2013-15	N	SAC, Adolescents (6-19)	Excessive	(79)
Kuwait	130	2014	N	SAC (6-12)	Adequate	(80)
Kyrgyzstan	114	2007	N	SAC (8-10)	Adequate	(81)
Lao People's Democratic Republic	103	2013	N	SAC	Adequate	(82)
Latvia	110	2010-11	N	SAC (9-12)	Adequate	(83)
Lebanon	66	2013	N	SAC	Insufficient	(84)
Lesotho*	215	2002	N	SAC (8-12)	Adequate	(85)
Liberia	244	2011	N	SAC	Adequate	(86)
Libya	-	-	-	-	-	-
Liechtenstein	96	2010	N	SAC (6-12)	Insufficient	(87)
Lithuania*	75	1995	N	SAC	Insufficient	(88)
Luxembourg*	148	2002	N	SAC, Adolescents (12-14)	Adequate	(89)
Madagascar	46	2015	N	WRA (15-49)	Insufficient	(90)
Malawi	269	2015-16	N	SAC (5-10)	Adequate	(91)
Malaysia	109	2008	N	SAC (8–10)	Adequate	(92)
Maldives	176	2007	N	SAC (6–12)	Adequate	(93)
Mali	69	2005	N	SAC (6–12)	Insufficient	(94)
Malta	-	-	-	-	-	-
Marshall Islands	-	-	-	-	-	-
Mauritania	179	2012	N	SAC	Adequate	(95)
Mauritius*	160	1995	N	Adults	Adequate	(96)

Country or territory	Median UIC (µg/L)	Date of survey	Data type	Population surveyed	Iodine intake <sup>2,3</sup>	References
Mexico	297	2011	N	SAC (6-12)	Adequate	(7, 97)
Micronesia, Federated States of	-	-	-	-	-	-
Moldova, Republic of	136	2016	N	AD (18-69)	Adequate	(98)
Monaco	-	-	-	-	-	-
Mongolia	145	2017	N	SAC (6-11)	Adequate	(99)
Montenegro	174	2007	N	SAC (6-11)	Adequate	(100)
Morocco	71	2018	N	WRA (18-49)	Insufficient	(101)
Mozambique	97	2011-12	N	WRA (15-49)	Insufficient	(102)
Myanmar	139	2016-17	N	SAC (5-9)	Adequate	(103)
Namibia*	216	1998-9	N	SAC (8-12)	Adequate	(104)
Nauru	142	2015	N	SAC (6-12)	Adequate	(105)
Nepal	314	2016	N	SAC (6-9)	Excessive	(106)
Netherlands	130	2006	S	Adults (50-72)	Adequate	(107)
New Zealand	115	2011, 2015	SP	SAC (8-10)	Adequate	(108)
Nicaragua	90	2018	N	NPNLW (14-75)	Insufficient	(109)
Niger	101	2015	S	SAC	Adequate	(110)
Nigeria*	130	2004-05	N	SAC (9-12)	Adequate	(111)
Niue	-	-	-	-	-	-
Norway	75	2017-18	S	WRA (18-30)	Insufficient	(112)
Oman	191	2014	N	SAC (6-12)	Adequate	(80, 113)
Pakistan	124	2011	N	SAC (6-12)	Adequate	(114)
Palau	-	-	-	-	-	-
Palestine, State of	193	2013	N	SAC (7-12)	Adequate	(115)
Panama	292	2015 (P)	N	SAC (5-14)	Adequate	(116)
Papua New Guinea	170	2005	N	WRA (15-49)	Adequate	(117)
Paraguay	296	2015	N	SAC	Adequate	(118)
Peru	259	2013	N	SAC (5-17)	Adequate	(119)
Philippines	183	2018	N	SAC (9-10)	Adequate	(120)
Poland	112	2009-11	S	SAC (6-12)	Adequate	(121)
Portugal	106	2010	N	SAC (6-12)	Adequate	(122)
Qatar	341	2014	N	SAC (6-12)	Excessive	(123)
Romania	255	2015-16	N	SAC (6-7)	Adequate	(124)
Russian Federation	<100	2008-20	S	SAC	Insufficient	(125)
Rwanda*	298	1996	N	SAC, Adolescents (5-19)	Adequate	(126)
Saint Kitts and Nevis	204	2018	N	SAC	Adequate	(6)
Saint Lucia	141	2018	N	SAC	Adequate	(6)
Saint Vincent and the Grenadines	132	2018	N	SAC	Adequate	(6)
Samoa	88	2013	N	WRA (18-45)	Insufficient	(127)
San Marino	-	-	-	-	-	-
Sao Tome and Principe	-	-	-	-	-	-
Saudi Arabia	133	2012	N	SAC (8-10)	Adequate	(128, 129)

Country or territory	Median UIC (µg/L)	Date of survey	Data type	Population surveyed	Iodine intake <sup>2,3</sup>	References
Senegal	104	2010	N	SAC (6–12)	Adequate	(130, 131)
Serbia	195	2007	N	SAC (6–14)	Adequate	(132)
Seychelles	-	-	-	-	-	-
Sierra Leone	203	2013	N	WRA	Adequate	(133, 134)
Singapore	-	-	-	-	-	-
Slovakia*	183	2002	N	SAC (6-12)	Adequate	(135)
Slovenia*	140	2003-05	N	Adolescents (15-16)	Adequate	(136, 137)
Solomon Islands	328	2007-10	S	SAC (6-12)	Excessive	(138)
Somalia	417	2009	N	SAC (6-11)	Excessive	(139)
South Africa	130	2015	N	Adults (18-49)	Adequate	(140, 141)
South Sudan	94	2006	S	SAC (6-12)	Insufficient	(142)
Spain	173	2011-12	N	SAC	Adequate	(143)
Sri Lanka	233	2016	N	SAC (6–12)	Adequate	(106)
Sudan	66	2006	S	SAC (6-12)	Insufficient	(142)
Suriname	-	-	-	-	-	-
Swaziland*	170	1998, 1999 (P)	S	SAC (6–12)	Adequate	(144)
Sweden	125	2006-07	N	SAC (6-12)	Adequate	(145)
Switzerland	137	2015	N	SAC (6–12)	Adequate	(146)
Syrian Arab Republic	-	-	-	-	-	-
Tajikistan	75	2016	N	WRA (15-49)	Insufficient	(147)
Tanzania, United Republic of	204	2015-16	N	WRA (15-49)	Adequate	(148)
Thailand	179	2015	N	SAC (6-9)	Adequate	(149, 150)
The Former Yugoslav Republic of Macedonia	216	2016	N	SAC	Adequate	(151)
Timor-Leste	170	2013	N	WRA	Adequate	(152)
Togo	171	2005	N	SAC (6–12)	Adequate	(153, 154)
Tonga	-	-	-	-	-	-
Trinidad and Tobago	311	2018	N	SAC	Excessive	(6)
Tunisia	220	2013	N	SAC (6-12)	Adequate	(155, 156)
Turkey	107	2007	N	SAC (6–14)	Adequate	(157)
Turkmenistan	188	2006	N	SAC (8–10)	Adequate	(158)
Tuvalu	-	-	-	-	-	-
Uganda	464	2005	N	SAC (6–12)	Excessive	(159)
Ukraine*	90	2002	N	SAC (6–11)	Insufficient	(160)
United Arab Emirates	162	2008-09	N	SAC (6–12)	Adequate	(161)
United Kingdom	166	2015-16	N	SAC (4-10)	Adequate	(162)
United States of America	190	2011-14	N	SAC (6-11)	Adequate	(163)
Uruguay	248	2016	N	SAC	Adequate	(164)
Uzbekistan	141	2017	N	WRA	Adequate	(165)
Vanuatu	77	2017	N	WRA (15-49)	Insufficient	(166)
Venezuela	180	2011	N	SAC	Adequate	(7)
Viet Nam	84	2013-14	N	SAC (8-10)	Insufficient	(167)
Yemen	101	2015	N	SAC (6–12)	Adequate	(168)

Country or territory	Median UIC (µg/L)	Date of survey	Data type	Population surveyed	Iodine intake <sup>2,3</sup>	References
Zambia	245	2011	N	SAC (6-12)	Adequate	(169)
Zimbabwe	130	2013	N	SAC (5-12)	Adequate	(170)

## Notes

1. 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 2005 and 2020 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.

2. Adequate iodine intake in school-age children corresponds to median UIC values in the range 100-299 µg/L, and includes categories previously referred to as "Adequate" (100-199 µg/L) and "More than adequate" (200-299 µg/L).

3. 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  $\geq 100$  µg/L. However, the scientific basis for this threshold is weak. Estimates based on populations other than SAC should be interpreted with caution.

4. No surveys with sample sizes  $< 100$  are included in this compilation of data.

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