

# Global Scorecard of Iodine Nutrition in 2017

in the general population based on school-age children (SAC) with additional data for pregnant women (PW)

\*non WHO member states

## General population<sup>1,2</sup>

## Pregnant women (PW)<sup>2,4</sup>

Country or territory	Total population (2015)
Afghanistan	32'526'562
Albania	2'896'679
Algeria	39'666'519
Andorra	70'473
Angola	25'021'974
Antigua and Barbuda	91'818
Argentina	43'416'755
Armenia	3'017'712
Australia	23'968'973
Austria	8'544'586
Azerbaijan	9'753'968
Bahamas	388'019
Bahrain	1'377'237
Bangladesh	160'995'642
Barbados	284'215
Belarus	9'495'826
Belgium	11'299'192
Belize	359'287
Benin	10'879'829
Bhutan	774'830
Bolivia	10'724'705
Bosnia and Herzegovina	3'810'416
Botswana	2'262'485
Brazil	207'847'528
Brunei Darussalam	423'188
Bulgaria	7'149'787
Burkina Faso	18'105'570
Burundi	11'178'921
Cabo Verde	520'502
Cambodia	15'577'899

ALL: Median UIC (µg/L)	Date of survey	Admin	Population	Population iodine intake <sup>3</sup>
171	2013	N	SAC (7-12)	Adequate
100	2012	N	SAC (6-13)	Adequate
29	2006	S	SAC (8-10)	Insufficient
123	2002-12	S	SAC (5-14)	Adequate
313	2005	N	SAC (8-10)	Excessive
177	2011-12	N	SAC (5-11)	Adequate
111	2012	N	SAC (7-14)	Adequate
204	2007	N	SAC (8-10)	Adequate
247	2012-13	N	SAC (6-12)	Adequate
146	2011-12	N	SAC (6-12)	Adequate
169	2006	N	SAC (10-14)	Adequate
113	2010-11	N	SAC (6-12)	Adequate
318	2011	N	SAC (6-12)	Excessive
183	2010	N	SAC (6-11)	Adequate
191	2005	N	SAC	Adequate
157	2005	N	SAC (8-10)	Adequate
276	2016	N	SAC	Adequate
182	2008	N	SAC (7-11)	Adequate
84	2014	N	SAC	Insufficient
70	2005	N	SAC (7-12)	Insufficient
115	2010	N	SAC (6-12)	Adequate
236	2011	N	SAC (8-10)	Adequate

PW: Median UIC (µg/L)	Date of survey	Admin
85	2006	N
151	2004-13	S
116	2011-12	N
87	2009-11	S
196	2007	N
133	2004-05	N
224	2010	S
124	2010-11	N
261	N/A	S
157	2008	N
175	2008-09	S
165	2003	N
74	2014	N

Country or territory	Total population (2015)
Cameroon	23'344'179
Canada	35'939'927
Central African Republic	4'900'274
Chad	14'037'472
Chile	17'948'141
China	1'376'048'943
Colombia	48'228'704
Comoros	788'474
Congo	4'620'330
Congo, The Democratic Republic of the	77'266'814
Cook Islands	20'833
Costa Rica	4'807'850
Cote d'Ivoire	22'701'556
Croatia	4'240'317
Cuba	11'389'562
Cyprus	1'165'300
Czech Republic	10'543'186
Denmark	5'669'081
Djibouti	887'861
Dominica	72'680
Dominican Republic	10'528'391
Ecuador	16'144'363
Egypt	91'508'084
El Salvador	6'126'583
Equatorial Guinea	845'060
Eritrea	5'227'791
Estonia	1'312'558
Ethiopia	99'390'750
Fiji	892'145
Finland	5'503'457
France	64'395'345
Gabon	1'725'292
Gambia	1'990'924
Georgia	3'999'812
Germany	80'688'545

ALL: Median UIC (µg/L)	Date of survey	Admin	Population	Population iodine intake <sup>3</sup>
190	2002	N	SAC (6-12)	Adequate
174	2007-09	N	SAC (9-13)	Adequate
213	2003	N	SAC (6-12)	Adequate
252	2006	N	SAC	Adequate
198	2014	N	SAC (8-10)	Adequate
415	2002	N	SAC	Excessive
249	2007	N	SAC (6-12)	Adequate
314	2008-09	N	SAC	Excessive
203	2004	N	SAC (6-12)	Adequate
248	2009	N	SAC (7-11)	Adequate
176	2011-12	N	SAC (6-11)	Adequate
163	2010	N	SAC	Adequate
145	2015	S	SAC	Adequate
335	2015	N	SAC	Excessive
223	2012	N	SAC	Adequate
162	2014	N	SAC	Adequate
170	2014-15	N	SAC	Adequate
206	2012	N	SAC	Adequate
104	2015	N	SAC	Adequate
237	2009	S	SAC (8-12)	Adequate
83	2013	N	Adults (25-64)	Insufficient
136	2006-07	N	Adults (18-74)	Adequate
321	2005	N	SAC (6-12)	Excessive
122	2003-06	N	SAC (6-12)	Adequate

PW: Median UIC (µg/L)	Date of survey	Admin
221	2009-11	S
155	2014	N
354	2013-14	S
140	2009, 2015	S
101	2012	S
265	2015	N
135	2015	N
65	2006-09	S

Country or territory	Total population (2015)
Ghana	27'409'893
Greece	10'954'617
Grenada	106'825
Guatemala	16'342'897
Guinea	12'608'590
Guinea-Bissau	1'844'325
Guyana	767'085
Haiti	10'711'067
Honduras	8'075'060
Hong Kong (China)*	7'287'983
Hungary	9'855'023
Iceland	329'425
India	1'311'050'527
Indonesia	257'563'815
Iran, Islamic Republic of	79'109'272
Iraq	36'423'395
Ireland	4'688'465
Israel	8'064'036
Italy	59'797'685
Jamaica	2'793'335
Japan	126'573'481
Jordan	7'594'547
Kazakhstan	17'625'226
Kenya	46'050'302
Kiribati	112'423
Korea, Democratic People's Republic of	25'155'317
Korea, Republic of	50'293'439
Kuwait	3'892'115
Kyrgyzstan	5'939'962
Lao People's Democratic Republic	6'802'023
Latvia	1'970'503
Lebanon	5'850'743
Lesotho	2'135'022
Liberia	4'503'438

ALL: Median UIC (µg/L)	Date of survey	Admin	Population	Population iodine intake <sup>3</sup>
130	2011	N	SAC (6-12)	Adequate
144	2005	N	SAC	Adequate
139	2003	N	SAC, Adolescents (6-16)	Adequate
84	2004-05	N	SAC	Insufficient
356	2005	S	SAC	Excessive
228	2005	S	SAC (10-14)	Adequate
200	2007-08	S	Adolescent girls (16–20)	Adequate
158	2014-15	N	WRA	Adequate
223	2013	N	SAC (6-12)	Adequate
141	2007-08	N	SAC (8–10)	Adequate
101	2008-10	N	WRA (18-55)	Adequate
83	2016	N	SAC	Insufficient
83	2002-15	S	SAC	Insufficient
265	2013-17	N	SAC (6-12)	Adequate
203	2010	N	SAC (8–10)	Adequate
250	2006	N	WRA (15-49)	Adequate
118	2003-04	N	SAC (9-13)	Adequate
97	2009-10	N	SAC (6-12)	Insufficient
432	2013-15	N	SAC, Adolescents (10-18)	Adequate
130	2014	N	SAC (6-12)	Adequate
114	2007	N	SAC (8-10)	Adequate
103	2013	N	SAC	Adequate
110	2010-11	N	SAC (9-12)	Adequate
66	2013	N	SAC	Insufficient
215	2002	N	SAC (8–12)	Adequate
258	2011	N	WRA	Adequate

PW: Median UIC (µg/L)	Date of survey	Admin
184	2015	N
129	2008-15 (P)	S
180	2007-09	S
124	2014-15	N
172	2013	N
147	2004-11	S
61	2016	N
72	2002-13	S
254	2002-04	S
174	2014	N
111	2007	N
69	2013	N
254	2011	N

Country or territory	Total population (2015)
Libya	6'278'438
Liechtenstein*	37'531
Lithuania	2'878'405
Luxembourg	567'110
Madagascar	24'235'390
Malawi	17'215'232
Malaysia	30'331'007
Maldives	363'657
Mali	17'599'694
Malta	418'670
Marshall Islands	52'993
Mauritania	4'067'564
Mauritius	1'273'212
Mexico	127'017'224
Micronesia, Federated States of	104'460
Moldova, Republic of	4'068'897
Monaco	37'731
Mongolia	2'959'134
Montenegro	625'781
Morocco	34'377'511
Mozambique	27'977'863
Myanmar	53'897'154
Namibia	2'458'830
Nauru	10'222
Nepal	28'513'700
Netherlands	16'924'929
New Zealand	4'528'526
Nicaragua	6'082'032
Niger	19'899'120
Nigeria	182'201'962
Niue	1'610
Norway	5'210'967
Oman	4'490'541
Pakistan	188'924'874
Palau	21'291

ALL: Median UIC (µg/L)	Date of survey	Admin	Population	Population iodine intake <sup>3</sup>
96	2010	N	SAC (6-12)	Insufficient
148	2002	N	SAC (12-14)	Adequate
46	2015	N	WRA	Insufficient
175	2009	N	SAC (6-12)	Adequate
109	2008	N	SAC (8-10)	Adequate
115	2002	N	SAC (6-12)	Adequate
69	2005	N	SAC (6-12)	Insufficient
179	2012	N	SAC	Adequate
264	2006-16	S	SAC	Adequate
165	2006	N	SAC (9-11)	Adequate
171	2010	N	SAC (7-11)	Adequate
174	2007	N	SAC (6-11)	Adequate
97	2011-12	N	WRA	Insufficient
124	2006	N	SAC (6-11)	Adequate
142	2015	N	SAC	Adequate
203	2007	N	SAC	Adequate
115	2011, 2015	S	SAC (8-10)	Adequate
196	2007	N	SAC	Adequate
101	2015	S	SAC	Adequate
130	2004-05	N	SAC (9-12)	Adequate
191	2014	N	SAC (6-12)	Adequate
124	2011	N	SAC (6-12)	Adequate

PW: Median UIC (µg/L)	Date of survey	Admin
214	2008-12	S
152	2010	N
134	2007	N
31	2015	S
290	2015	S
223	2002-06	S
38	2005	N
82	2015	S
69	2003-04	S
67	2002-05	S



Country or territory	Total population (2015)
Sweden	9'779'426
Switzerland	8'298'663
Syrian Arab Republic	18'502'413
Taiwan (China)*	
Tajikistan	8'481'855
Tanzania, United Republic of	53'470'420
TFYR Macedonia	2'078'453
Thailand	67'959'359
Timor-Leste	1'184'765
Togo	7'304'578
Tonga	106'170
Trinidad and Tobago	1'360'088
Tunisia	11'253'554
Turkey	78'665'830
Turkmenistan	5'373'502
Tuvalu	9'916
Uganda	39'032'383
Ukraine	44'823'765
United Arab Emirates	9'156'963
United Kingdom	64'715'810
United States of America	321'773'631
Uruguay	3'431'555
Uzbekistan	29'893'488
Vanuatu	264'652
Venezuela	31'108'083
Viet Nam	93'447'601
Yemen	26'832'215
Zambia	16'211'767
Zimbabwe	15'602'751

ALL: Median UIC (µg/L)	Date of survey	Admin	Population	Population iodine intake <sup>3</sup>
125	2006-07	N	SAC (6-12)	Adequate
137	2015	N	SAC (6-12)	Adequate
123	2012	N	SAC (6-12)	Adequate
108	2009	N	WRA (15-49)	Adequate
204	2004	N	SAC, Adolescents (6-18)	Adequate
241	2007	N	SAC	Adequate
262	2012	N	SAC	Adequate
171	2005	N	SAC (6-12)	Adequate
220	2013	N	SAC (6-12)	Adequate
107	2007	N	SAC (6-14)	Adequate
170	2004	N	SAC (8-10)	Adequate
464	2005	N	SAC (6-12)	Excessive
90	2002	N	WRA (15-49)	Insufficient
162	2008-09	N	SAC (6-12)	Adequate
138	2013-14	N	SAC, Adolescents (4-18)	Adequate
213	2009-10	N	SAC (6-11)	Adequate
248	2015	N	SAC	Adequate
141	2005	N	SAC (6-12)	Adequate
77	2007	N	WRA	Insufficient
180	2011	N	SAC	Adequate
84	2013-14	N	SAC (8-10)	Insufficient
122	2015	N	SAC (6-12)	Adequate
245	2011	N	SAC (7-12)	Adequate
220	2005	S	SAC	Adequate

PW: Median UIC (µg/L)	Date of survey	Admin
98	2006-07; 2010-12	S
136	2015	N
171	2015-16	N
156	2014	N
93	2006-12	S
13	2013 (P)	S
147	2012	N
99	2002-11	S
129	2005-10	N
174	2008	S
67	2009-10, 2014	S

## **Abbreviations**

SAC, School-age children (typically 6-12 years old); WRA, Women of reproductive age (typically 15-49 years old); PW, Pregnant women; P, Date published; N, Nationally-representative data; S, Sub-national data only (not representative at a national level).

## **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 [1], 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 2002 and 2017 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 [1,2]. Similar inclusion criteria have been described previously [2,3].

<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  $\geq 100$   $\mu\text{g/L}$  [1]. However, the scientific basis for this threshold is weak. Estimates based on populations other than SAC should be interpreted with caution [4].

<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  $\mu\text{g/L}$ ) [1].

<sup>4</sup>Adequate iodine intake in pregnant women corresponds to median UIC values in the range 150-249  $\mu\text{g/L}$  [1]. Because of altered physiology during pregnancy, iodine intake in this population group should not be used as a proxy for the general population.

## References

1. World Health Organization, United Nations Children's Fund, International Council for Control of Iodine Deficiency Disorders. Assessment of iodine deficiency disorders and monitoring their elimination. A guide for programme managers. Geneva: WHO; 2007.
2. Andersson M, Karumbunathan V, Zimmermann MB. Global iodine status in 2011 and trends over the past decade. J Nutr. 2012;142(4):744-50
3. Pearce EN, Andersson M, Zimmermann M. Global Iodine Nutrition - Where do we stand in 2013? Thyroid. 2013;23(5):523-8
4. Zimmermann MB, Andersson M. Assessment of iodine nutrition in populations: past, present, and future. Nutr Rev. 2012;70(10):553–70.

## Data sources

The references of the original data sources for all country data can be requested at [ggizak@ign.org](mailto:ggizak@ign.org)

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To share UIC surveys eligible for inclusion in the Scorecard, please email [ggizak@ign.org](mailto:ggizak@ign.org) or upload them here: [Google Drive](#)

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