

Contents

| | |
|--|-----|
| Preface | 1 |
| 1 Introduction | 3 |
| 2 The importance of global nutritional surveillance | 4 |
| 3 Rationale for promoting healthy growth and development | 5 |
| 4 The global picture | 7 |
| 4.1 Coverage of the database | 7 |
| 4.2 Overview of national surveys | 10 |
| 4.3 Regional and global estimates of underweight, stunting, wasting, and overweight | 27 |
| 4.4 Nutritional trends | 30 |
| 5 Methods and standardized data presentation | 45 |
| 5.1 Child growth indicators and their interpretation | 46 |
| 5.2 The international reference population | 47 |
| 5.3 The Z-score or standard deviation classification system | 49 |
| 5.4 Cut-off points and summary statistics | 50 |
| 6 How to read the database printouts | 52 |
| 6.1 Data. | 52 |
| 6.2 References..... | 55 |
| 7 Bibliography. | 56 |
| 8 List of countries..... | 61 |
| 8.1 UN regions and subregions | 61 |
| 8.2 WHO regions | 63 |
| 8.3 Level of development | 64 |
| 9 Country data and references..... | 67 |
| Afghanistan | 69 |
| Belgium | 106 |
| Albania | 72 |
| Belize | 107 |
| Algeria | 73 |
| Benin | 109 |
| American Samoa | 77 |
| Bhutan | 112 |
| Angola | 78 |
| Bolivia | 114 |
| Antigua and Barbuda..... | 80 |
| Bosnia and Herzegovina | 130 |
| Argentina..... | 82 |
| Botswana | 132 |
| Armenia | 85 |
| Brazil | 134 |
| Aruba | 87 |
| Bulgaria | 152 |
| Australia | 88 |
| Burkina Faso | 153 |
| Azerbaijan | 89 |
| Burundi | 157 |
| Bahrain | 91 |
| Cambodia | 161 |
| Bangladesh | 93 |
| Cameroon | 163 |
| Barbados..... | 104 |
| Canada | 167 |

| | | | |
|---|-----|-----------------------------------|-----|
| Cape Verde | 169 | Jamaica..... | 357 |
| Central African Republic | 172 | Japan | 361 |
| Chad | 175 | Jordan | 363 |
| Chile | 177 | Kazakstan | 367 |
| China | 185 | Kenya | 369 |
| Colombia | 204 | Kiribati | 378 |
| Comoros | 208 | Kuwait | 381 |
| Congo | 211 | Kyrgyzstan | 384 |
| Cook Islands ¹ | 215 | Lao People's | |
| Costa Rica..... | 216 | Democratic Republic | 386 |
| Côte d'Ivoire | 220 | Lebanon | 389 |
| Croatia | 224 | Lesotho | 391 |
| Cuba | 229 | Liberia | 396 |
| Czech Republic | 232 | Libyan Arab Jamahiriya..... | 398 |
| Democratic Republic of the Congo | 234 | Lithuania | 400 |
| Denmark | 244 | Madagascar | 401 |
| Djibouti | 245 | Malawi | 406 |
| Dominica | 237 | Maldives | 420 |
| Dominican Republic | 249 | Mali | 423 |
| Ecuador | 252 | Mauritania | 431 |
| Egypt | 255 | Mauritius..... | 434 |
| El Salvador..... | 262 | Mexico | 436 |
| Equatorial Guinea..... | 267 | Mongolia | 442 |
| Eritrea | 269 | Morocco | 444 |
| Ethiopia | 271 | Mozambique | 447 |
| Fiji | 276 | Myanmar..... | 450 |
| Finland | 278 | Namibia | 455 |
| France | 279 | Nepal | 458 |
| French Guiana | 281 | Netherlands | 463 |
| French Polynesia..... | 283 | New Caledonia | 464 |
| Gabon | 285 | New Zealand | 466 |
| Gambia | 287 | Nicaragua | 468 |
| Germany | 289 | Niger | 473 |
| Ghana | 291 | Nigeria | 477 |
| Greece | 295 | Niue | 482 |
| Guatemala | 296 | Norway | 483 |
| Guinea | 303 | Oman | 484 |
| Guinea-Bissau | 305 | Pakistan | 487 |
| Guyana | 307 | Palestinian self-rule areas | 495 |
| Haiti | 310 | Panama | 502 |
| Honduras | 313 | Papua New Guinea | 508 |
| Hong Kong | 316 | Paraguay | 513 |
| Hungary | 318 | Peru | 515 |
| India..... | 321 | Philippines | 523 |
| Indonesia | 339 | Poland | 530 |
| Iran (Islamic Republic of) | 346 | Portugal..... | 532 |
| Iraq..... | 348 | Puerto Rico | 533 |
| Ireland | 352 | Qatar | 534 |
| Israel..... | 353 | Republic of Korea | 536 |
| Italy | 354 | Reunion | 538 |

| | | | |
|--|-----|--------------------------------|-----|
| Romania | 539 | Syrian Arab Republic | 625 |
| Russian Federation | 541 | Tajikistan | 627 |
| Rwanda | 545 | Thailand | 630 |
| Saint Kitts and Nevis | 550 | Togo | 635 |
| Saint Lucia | 551 | Tonga | 639 |
| Saint Vincent and the Grenadines | 553 | Trinidad and Tobago | 641 |
| Samoa | 555 | Tunisia | 644 |
| Sao Tome and Principe | 557 | Turkey | 648 |
| Saudi Arabia | 559 | Turks and Caicos Islands | 652 |
| Senegal | 561 | United Kingdom | 653 |
| Seychelles | 567 | of Great Britain | 654 |
| Sierra Leone | 570 | and Northern Ireland | 657 |
| Singapore | 573 | United Republic of Tanzania.. | 660 |
| Solomon Islands | 576 | United States of America | 669 |
| Somalia | 580 | Uruguay | 674 |
| South Africa | 584 | Uzbekistan | 677 |
| Spain | 593 | Vanuatu | 679 |
| Sri Lanka | 596 | Venezuela | 681 |
| Sudan | 605 | Viet Nam | 691 |
| Suriname | 619 | Yemen | 695 |
| Swaziland | 620 | Yugoslavia | 700 |
| Sweden | 623 | Zambia | 702 |
| Switzerland | 624 | Zimbabwe | 707 |

The WHO/NCHS reference has been the subject of close technical scrutiny, and a number of limitations have been identified, for example in limited geographical coverage. It is now probable that a new reference will be developed by incorporating new data on the growth of healthy children from several countries (5). Meanwhile, a major question of principle remains: Is it appropriate to compare the growth of children living in deprived environments with their counterparts in the radically different environment of affluent populations? If, as frequently pointed out, a reference is no more than a comparison-making tool—*as opposed to a standard to be upheld or a target to be attained*—does this really answer the question or merely evade the larger issue?

The WHO/NCHS reference relates to healthy children. It is now widely, if not universally, accepted that children the world over have much the same growth potential, at least to seven years of age. Environmental factors, including infectious diseases, inadequate and unsafe diets, and all the hardships of poverty appear to be far more important than genetic predispositions in producing deviations from the reference.

We are more aware than ever before that the underlying causes of impaired growth are deeply rooted in poverty and lack of education. To