**Supplemental Table 1.**  Country-level estimates of rotavirus hospitalizations and deaths in 2016 for African countries introducing rotavirus vaccination by end of 2014

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Country** | **Intro Year1** | **Vaccine****Brand** | **Rotavirus Vaccination Coverage (%)2** | **Rotavirus Hospitalizations** | **Rotavirus Deaths** |
| **Expected (No.)** | **Prevented (No.)** | **Prevented (%)** | **Expected (No.)** | **Prevented (No.)** | **Prevented (%)** |
| **Angola** | 2014 | Rotarix | 49 | 15,373 ( 11,956 - 18,138 ) | 3,303 ( 1,980 - 4,619 ) | 21 (17-25) | 9,738 ( 9,120 - 10,237 ) | 2,092 ( 1,510 - 2,607 ) | 21 (17-25) |
| **Botswana** | 2012 | Rotarix | 82 | 850 ( 676 - 1,019 ) | 448 ( 322 - 586 ) | 53 (48-57) | 50 ( 47 - 52 ) | 26 ( 23 - 30 ) | 53 (48-57) |
| **Burkina Faso** | 2013 | RotaTeq | 91 | 9,637 ( 7,727 - 11,849 ) | 3,725 ( 2,378 - 5,660 ) | 39 (31-48) | 2,482 ( 2,407 - 2,570 ) | 960 ( 741 - 1,228 ) | 39 (31-48) |
| **Burundi** | 2013 | Rotarix | 96 | 6,603 ( 5,236 - 8,007 ) | 2,749 ( 1,719 - 4,058 ) | 42 (33-51) | 1,553 ( 1,503 - 1,604 ) | 646 ( 493 - 813 ) | 42 (33-51) |
| **Cameroon** | 2014 | Rotarix | 73 | 11,636 ( 9,236 - 14,136 ) | 3,611 ( 2,252 - 5,363 ) | 31 (24-38) | 3,277 ( 3,173 - 3,385 ) | 1,017 ( 774 - 1,284 ) | 31 (24-38) |
| **Congo** | 2014 | Rotarix | 80 | 2,421 ( 1,964 - 2,872 ) | 1,189 ( 871 - 1,544 ) | 49 (44-54) | 147 ( 141 - 153 ) | 72 ( 63 - 82 ) | 49 (44-54) |
| **Djibouti** | 2014 | Rotarix | 86 | 314 ( 248 - 381 ) | 163 ( 114 - 219 ) | 52 (46-57) | 55 ( 53 - 57 ) | 28 ( 24 - 33 ) | 52 (46-57) |
| **Eritrea** | 2014 | Rotarix | 96 | 2,450 ( 1,941 - 2,931 ) | 1,410 ( 991 - 1,860 ) | 58 (51-63) | 411 ( 393 - 429 ) | 237 ( 201 - 272 ) | 58 (51-63) |
| **Ethiopia** | 2013 | Rotarix | 83 | 44,950 ( 36,321 - 53,871 ) | 22,825 ( 16,670 - 30,010 ) | 51 (46-56) | 6,799 ( 6,571 - 7,035 ) | 3,452 ( 3,016 - 3,919 ) | 51 (46-56) |
| **Gambia** | 2013 | RotaTeq | 97 | 1,164 ( 910 - 1,398 ) | 488 ( 297 - 705 ) | 42 (33-50) | 152 ( 147 - 157 ) | 64 ( 48 - 79 ) | 42 (33-50) |
| **Ghana** | 2012 | Rotarix | 88 | 12,748 ( 10,055 - 15,457 ) | 7,174 ( 5,121 - 9,527 ) | 56 (51-62) | 1,785 ( 1,726 - 1,844 ) | 1,004 ( 879 - 1,136 ) | 56 (51-62) |
| **Kenya** | 2014 | Rotarix | 66 | 22,140 ( 17,380 - 26,682 ) | 8,817 ( 6,133 - 11,743 ) | 40 (35-44) | 3,906 ( 3,765 - 4,040 ) | 1,556 ( 1,329 - 1,778 ) | 40 (35-44) |
| **Libya** | 2013 | RotaTeq | 86 | 1,965 ( 1,590 - 2,306 ) | 1,055 ( 768 - 1,349 ) | 54 (48-59) | 12 ( 12 - 13 ) | 7 ( 6 - 8 ) | 54 (48-59) |
| **Madagascar** | 2014 | Rotarix | 69 | 12,058 ( 9,724 - 14,451 ) | 5,095 ( 3,697 - 6,718 ) | 42 (38-46) | 1,489 ( 1,432 - 1,546 ) | 629 ( 544 - 719 ) | 42 (38-46) |
| **Malawi** | 2012 | Rotarix | 84 | 9,212 ( 7,380 - 10,934 ) | 4,919 ( 3,570 - 6,350 ) | 53 (48-58) | 1,112 ( 1,074 - 1,148 ) | 594 ( 519 - 667 ) | 53 (48-58) |
| **Mali** | 2014 | RotaTeq | 33 | 10,127 ( 8,215 - 12,337 ) | 1,421 ( 928 - 2,122 ) | 14 (11-17) | 3,757 ( 3,625 - 3,910 ) | 527 ( 409 - 673 ) | 14 (11-17) |
| **Mauritania** | 2014 | Rotarix | 56 | 1,849 ( 1,475 - 2,226 ) | 429 ( 268 - 628 ) | 23 (18-28) | 439 ( 425 - 453 ) | 102 ( 77 - 128 ) | 23 (18-28) |
| **Morocco** | 2010 | RotaTeq | 90 | 10,690 ( 8,434 - 12,766 ) | 6,249 ( 4,463 - 8,113 ) | 58 (53-64) | 409 ( 376 - 439 ) | 239 ( 199 - 279 ) | 58 (53-64) |
| **Namibia** | 2014 | Rotarix | 87 | 1,093 ( 890 - 1,304 ) | 575 ( 422 - 754 ) | 53 (47-58) | 78 ( 75 - 81 ) | 41 ( 36 - 47 ) | 53 (47-58) |
| **Niger** | 2014 | Rotarix | 70 | 13,683 ( 10,764 - 16,333 ) | 4,153 ( 2,548 - 5,948 ) | 30 (24-36) | 3,988 ( 3,850 - 4,113 ) | 1,211 ( 911 - 1,498 ) | 30 (24-36) |
| **Rwanda** | 2012 | RotaTeq | 98 | 5,130 ( 4,011 - 6,019 ) | 3,246 ( 2,276 - 4,121 ) | 63 (57-68) | 733 ( 699 - 760 ) | 464 ( 397 - 520 ) | 63 (57-68) |
| **Senegal** | 2014 | Rotarix | 83 | 8,402 ( 6,551 - 10,146 ) | 4,212 ( 2,899 - 5,628 ) | 50 (44-55) | 677 ( 648 - 704 ) | 339 ( 287 - 391 ) | 50 (44-55) |
| **Sierra Leone** | 2014 | Rotarix | 85 | 3,014 ( 2,466 - 3,650 ) | 1,068 ( 707 - 1,581 ) | 35 (29-43) | 1,933 ( 1,840 - 2,041 ) | 685 ( 528 - 884 ) | 35 (29-43) |
| **South Africa** | 2009 | Rotarix | 72 | 15,537 ( 12,621 - 18,260 ) | 7,268 ( 5,388 - 9,239 ) | 47 (43-51) | 907 ( 833 - 975 ) | 424 ( 356 - 493 ) | 47 (43-51) |
| **Sudan** | 2011 | Rotarix | 84 | 18,143 ( 14,820 - 22,091 ) | 6,762 ( 4,535 - 9,984 ) | 37 (31-45) | 2,957 ( 2,776 - 3,172 ) | 1,102 ( 849 - 1,434 ) | 37 (31-45) |
| **Tanzania** | 2013 | Rotarix | 98 | 29,970 ( 23,512 - 36,088 ) | 18,625 ( 13,120 - 24,568 ) | 62 (56-68) | 2,555 ( 2,442 - 2,662 ) | 1,588 ( 1,363 - 1,812 ) | 62 (56-68) |
| **Togo** | 2014 | Rotarix | 85 | 3,612 ( 2,999 - 4,357 ) | 1,307 ( 892 - 1,917 ) | 36 (30-44) | 657 ( 640 - 678 ) | 238 ( 190 - 298 ) | 36 (30-44) |
| **Zambia** | 2013 | Rotarix | 82 | 8,892 ( 7,169 - 10,712 ) | 4,485 ( 3,264 - 5,946 ) | 50 (46-56) | 1,741 ( 1,690 - 1,796 ) | 878 ( 769 - 997 ) | 50 (46-56) |
| **Zimbabwe** | 2014 | Rotarix | 87 | 7,939 ( 6,265 - 9,586 ) | 2,974 ( 1,831 - 4,367 ) | 37 (29-46) | 1,295 ( 1,253 - 1,337 ) | 485 ( 366 - 609 ) | 37 (29-46) |

Estimates presented as median (interquartile range)

Footnotes 1. Source: WHO Status of New Vaccines Introduction. Immunization Data Repository with contributions from WHO, UNICEF and other partners. Available from: <http://www.who.int/immunization/monitoring_surveillance/data/en/> [Accessed: 22 March 2017]

2. 2015 coverage for last dose of rotavirus vaccine reported to WHO. Available from: <http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tscoveragerotac.html> [Accessed 22 March 2017]

**Supplemental Table 2**. Country-level estimates of rotavirus hospitalizations and deaths in 2016 with hypothetical full introduction of rotavirus vaccination into national immunization programs.

| **Country** | **Routine Vaccination Coverage (%)1** | **Rotavirus Hospitalizations** | **Rotavirus Deaths** |
| --- | --- | --- | --- |
| **Expected (No.)** | **Prevented (No.)** | **Prevented (%)** | **Expected (No.)** | **Prevented (No.)** | **Prevented (%)** |
| **Algeria** | 97 | 14,129 ( 11,132 - 17,033 ) | 8,871 ( 6,323 - 11,684 ) | 63 (57-69) | 508 ( 483 - 533 ) | 319 ( 274 - 366 ) | 63 (54-72) |
| **Angola** | 70.5 | 15,373 ( 11,956 - 18,138 ) | 5,034 ( 3,069 - 6,977 ) | 33 (26-38) | 9,738 ( 9,120 - 10,237 ) | 3,189 ( 2,341 - 3,938 ) | 33 (24-41) |
| **Benin** | 84.5 | 5,320 ( 4,309 - 6,406 ) | 2,033 ( 1,341 - 2,936 ) | 38 (31-46) | 1,064 ( 1,033 - 1,097 ) | 407 ( 321 - 503 ) | 38 (30-47) |
| **Botswana** | 96.5 | 850 ( 676 - 1,019 ) | 534 ( 386 - 697 ) | 63 (57-68) | 50 ( 47 - 52 ) | 31 ( 27 - 36 ) | 63 (55-72) |
| **Burkina Faso** | 91 | 9,637 ( 7,727 - 11,849 ) | 3,910 ( 2,527 - 5,887 ) | 41 (33-50) | 2,482 ( 2,407 - 2,570 ) | 1,007 ( 787 - 1,277 ) | 40 (32-51) |
| **Burundi** | 95.5 | 6,603 ( 5,236 - 8,007 ) | 2,873 ( 1,821 - 4,204 ) | 44 (35-53) | 1,553 ( 1,503 - 1,604 ) | 676 ( 523 - 842 ) | 44 (34-54) |
| **Cabo Verde** | 95 | 160 ( 132 - 195 ) | 98 ( 75 - 131 ) | 61 (56-67) | 5 ( 5 - 5 ) | 3 ( 3 - 4 ) | 61 (53-71) |
| **Cameroon** | 88 | 11,636 ( 9,236 - 14,136 ) | 4,617 ( 2,926 - 6,785 ) | 40 (32-48) | 3,277 ( 3,173 - 3,385 ) | 1,300 ( 1,005 - 1,625 ) | 40 (31-50) |
| **Central African Republic** | 58 | 2,267 ( 1,805 - 2,715 ) | 598 ( 382 - 853 ) | 26 (21-31) | 828 ( 791 - 864 ) | 218 ( 168 - 271 ) | 26 (20-33) |
| **Chad** | 57.5 | 8,382 ( 6,777 - 10,152 ) | 2,183 ( 1,437 - 3,185 ) | 26 (21-31) | 4,234 ( 4,043 - 4,445 ) | 1,103 ( 857 - 1,394 ) | 26 (20-33) |
| **Comoros** | 80.5 | 373 ( 297 - 449 ) | 136 ( 87 - 196 ) | 37 (29-44) | 64 ( 62 - 66 ) | 23 ( 18 - 29 ) | 37 (28-45) |
| **Congo** | 82.5 | 2,421 ( 1,964 - 2,872 ) | 1,302 ( 967 - 1,674 ) | 54 (49-58) | 147 ( 141 - 153 ) | 79 ( 69 - 89 ) | 54 (47-61) |
| **Cote d'Ivoire** | 91 | 11,754 ( 9,284 - 14,193 ) | 4,893 ( 3,077 - 7,099 ) | 42 (33-50) | 2,724 ( 2,633 - 2,813 ) | 1,134 ( 873 - 1,407 ) | 42 (32-52) |
| **Democratic Republic of Congo** | 81.5 | 44,079 ( 35,830 - 53,750 ) | 16,324 ( 10,856 - 24,151 ) | 37 (30-45) | 13,520 ( 13,064 - 14,055 ) | 5,007 ( 3,958 - 6,315 ) | 37 (29-47) |
| **Djibouti** | 87 | 314 ( 248 - 381 ) | 176 ( 126 - 234 ) | 56 (51-61) | 55 ( 53 - 57 ) | 31 ( 27 - 35 ) | 56 (49-64) |
| **Egypt** | 93.5 | 39,843 ( 31,931 - 48,252 ) | 24,040 ( 17,611 - 31,772 ) | 60 (55-66) | 834 ( 796 - 873 ) | 503 ( 439 - 575 ) | 60 (53-69) |
| **Equatorial Guinea** | 22 | 406 ( 326 - 487 ) | 41 ( 27 - 59 ) | 10 (8-12) | 76 ( 74 - 79 ) | 8 ( 6 - 9 ) | 10 (8-12) |
| **Eritrea** | 96.5 | 2,450 ( 1,941 - 2,931 ) | 1,528 ( 1,097 - 1,991 ) | 62 (57-68) | 411 ( 393 - 429 ) | 257 ( 222 - 291 ) | 62 (54-71) |
| **Ethiopia** | 90 | 44,950 ( 36,321 - 53,871 ) | 26,040 ( 19,257 - 33,944 ) | 58 (53-63) | 6,799 ( 6,571 - 7,035 ) | 3,939 ( 3,484 - 4,433 ) | 58 (51-65) |
| **Gabon** | 83.5 | 732 ( 590 - 882 ) | 392 ( 289 - 515 ) | 54 (49-58) | 66 ( 64 - 69 ) | 35 ( 31 - 40 ) | 53 (47-60) |
| **Gambia** | 97 | 1,164 ( 910 - 1,398 ) | 508 ( 314 - 729 ) | 44 (34-52) | 152 ( 147 - 157 ) | 66 ( 51 - 82 ) | 44 (33-54) |
| **Ghana** | 92.5 | 12,748 ( 10,055 - 15,457 ) | 7,603 ( 5,439 - 10,082 ) | 60 (54-65) | 1,785 ( 1,726 - 1,844 ) | 1,064 ( 934 - 1,203 ) | 60 (52-67) |
| **Guinea** | 55.5 | 6,516 ( 5,237 - 7,722 ) | 1,653 ( 1,075 - 2,313 ) | 25 (21-30) | 1,304 ( 1,263 - 1,342 ) | 331 ( 259 - 402 ) | 25 (20-31) |
| **Guinea-Bissau** | 86 | 946 ( 739 - 1,127 ) | 380 ( 234 - 537 ) | 40 (32-48) | 291 ( 279 - 302 ) | 117 ( 88 - 144 ) | 40 (30-50) |
| **Kenya** | 92.5 | 22,140 ( 17,380 - 26,682 ) | 13,250 ( 9,402 - 17,432 ) | 60 (54-65) | 3,906 ( 3,765 - 4,040 ) | 2,337 ( 2,037 - 2,639 ) | 60 (52-68) |
| **Lesotho** | 95.5 | 875 ( 698 - 1,061 ) | 377 ( 242 - 552 ) | 43 (35-52) | 164 ( 159 - 170 ) | 71 ( 55 - 88 ) | 43 (33-54) |
| **Liberia** | 64.5 | 2,135 ( 1,735 - 2,586 ) | 614 ( 407 - 897 ) | 29 (23-35) | 312 ( 302 - 323 ) | 90 ( 71 - 112 ) | 29 (23-36) |
| **Libya** | 94 | 1,965 ( 1,590 - 2,306 ) | 1,215 ( 895 - 1,542 ) | 62 (56-67) | 12 ( 12 - 13 ) | 8 ( 7 - 9 ) | 62 (54-70) |
| **Madagascar** | 74 | 12,058 ( 9,724 - 14,451 ) | 5,812 ( 4,282 - 7,583 ) | 48 (44-52) | 1,489 ( 1,432 - 1,546 ) | 718 ( 631 - 811 ) | 48 (42-55) |
| **Malawi** | 90.5 | 9,212 ( 7,380 - 10,934 ) | 5,414 ( 3,950 - 6,965 ) | 59 (54-64) | 1,112 ( 1,074 - 1,148 ) | 654 ( 575 - 731 ) | 59 (52-66) |
| **Mali** | 68 | 10,127 ( 8,215 - 12,337 ) | 3,094 ( 2,046 - 4,573 ) | 31 (25-37) | 3,757 ( 3,625 - 3,910 ) | 1,148 ( 903 - 1,450 ) | 30 (24-38) |
| **Mauritania** | 80 | 1,849 ( 1,475 - 2,226 ) | 664 ( 425 - 960 ) | 36 (29-43) | 439 ( 425 - 453 ) | 158 ( 123 - 195 ) | 36 (28-44) |
| **Mauritius** | 97.5 | 211 ( 170 - 252 ) | 133 ( 98 - 172 ) | 63 (58-68) | 1 ( 1 - 1 ) | 1 ( 0 - 1 ) | 63 (54-73) |
| **Morocco** | 99 | 10,690 ( 8,434 - 12,766 ) | 6,874 ( 4,909 - 8,925 ) | 64 (58-70) | 409 ( 376 - 439 ) | 263 ( 219 - 307 ) | 64 (54-75) |
| **Mozambique** | 85 | 15,452 ( 12,379 - 18,373 ) | 6,076 ( 3,924 - 8,557 ) | 39 (32-47) | 2,679 ( 2,596 - 2,758 ) | 1,054 ( 823 - 1,285 ) | 39 (31-48) |
| **Namibia** | 95 | 1,093 ( 890 - 1,304 ) | 676 ( 505 - 876 ) | 62 (57-67) | 78 ( 75 - 81 ) | 48 ( 43 - 55 ) | 62 (55-70) |
| **Niger** | 75 | 13,683 ( 10,764 - 16,333 ) | 4,747 ( 2,966 - 6,726 ) | 35 (28-41) | 3,988 ( 3,850 - 4,113 ) | 1,384 ( 1,061 - 1,694 ) | 35 (27-43) |
| **Nigeria** | 63 | 97,112 ( 79,187 - 117,441 ) | 27,378 ( 18,319 - 39,846 ) | 28 (23-34) | 30,701 ( 29,703 - 31,834 ) | 8,655 ( 6,871 - 10,801 ) | 28 (22-35) |
| **Rwanda** | 98 | 5,130 ( 4,011 - 6,019 ) | 3,284 ( 2,310 - 4,161 ) | 64 (58-69) | 733 ( 699 - 760 ) | 469 ( 403 - 525 ) | 64 (55-72) |
| **Sao Tome and Principe** | 97 | 93 ( 74 - 112 ) | 59 ( 43 - 77 ) | 63 (57-69) | 10 ( 10 - 10 ) | 6 ( 5 - 7 ) | 63 (55-72) |
| **Senegal** | 91.5 | 8,402 ( 6,551 - 10,146 ) | 4,999 ( 3,517 - 6,593 ) | 60 (54-65) | 677 ( 648 - 704 ) | 403 ( 348 - 458 ) | 60 (51-68) |
| **Seychelles** | 98 | 25 ( 21 - 30 ) | 16 ( 12 - 21 ) | 63 (58-69) | 0 ( 0 - 0 ) | 0 ( 0 - 0 ) | 63 (54-74) |
| **Sierra Leone** | 90.5 | 3,014 ( 2,466 - 3,650 ) | 1,211 ( 813 - 1,771 ) | 40 (33-49) | 1,933 ( 1,840 - 2,041 ) | 777 ( 607 - 991 ) | 40 (31-51) |
| **Somalia** | 47 | 6,286 ( 4,998 - 7,411 ) | 1,355 ( 862 - 1,876 ) | 22 (17-25) | 3,462 ( 3,295 - 3,608 ) | 746 ( 569 - 914 ) | 22 (16-26) |
| **South Africa** | 70.5 | 15,537 ( 12,621 - 18,260 ) | 7,116 ( 5,276 - 9,046 ) | 46 (42-50) | 907 ( 833 - 975 ) | 415 ( 348 - 483 ) | 46 (39-53) |
| **South Sudan** | 40 | 6,125 ( 4,853 - 7,333 ) | 1,110 ( 701 - 1,584 ) | 18 (14-22) | 1,527 ( 1,477 - 1,574 ) | 277 ( 213 - 340 ) | 18 (14-22) |
| **Sudan** | 95 | 18,143 ( 14,820 - 22,091 ) | 7,647 ( 5,128 - 11,291 ) | 42 (35-51) | 2,957 ( 2,776 - 3,172 ) | 1,246 ( 960 - 1,621 ) | 42 (32-54) |
| **Swaziland** | 93 | 531 ( 430 - 638 ) | 318 ( 236 - 418 ) | 60 (55-65) | 103 ( 100 - 106 ) | 62 ( 55 - 69 ) | 60 (53-67) |
| **Tanzania** | 98.5 | 29,970 ( 23,512 - 36,088 ) | 19,183 ( 13,605 - 25,199 ) | 64 (58-70) | 2,555 ( 2,442 - 2,662 ) | 1,635 ( 1,413 - 1,859 ) | 64 (55-73) |
| **Togo** | 90 | 3,612 ( 2,999 - 4,357 ) | 1,479 ( 1,023 - 2,144 ) | 41 (34-49) | 657 ( 640 - 678 ) | 269 ( 218 - 334 ) | 41 (33-51) |
| **Tunisia** | 98 | 3,152 ( 2,528 - 3,770 ) | 2,015 ( 1,473 - 2,621 ) | 64 (58-70) | 28 ( 27 - 29 ) | 18 ( 16 - 20 ) | 64 (56-73) |
| **Uganda** | 83.5 | 23,191 ( 18,694 - 28,123 ) | 12,581 ( 9,266 - 16,702 ) | 54 (50-59) | 3,095 ( 2,991 - 3,210 ) | 1,679 ( 1,482 - 1,906 ) | 54 (48-62) |
| **Zambia** | 93.5 | 8,892 ( 7,169 - 10,712 ) | 5,375 ( 3,960 - 7,064 ) | 60 (55-66) | 1,741 ( 1,690 - 1,796 ) | 1,053 ( 933 - 1,185 ) | 60 (54-68) |
| **Zimbabwe** | 90.5 | 7,939 ( 6,265 - 9,586 ) | 3,293 ( 2,063 - 4,782 ) | 41 (33-50) | 1,295 ( 1,253 - 1,337 ) | 537 ( 413 - 667 ) | 42 (32-52) |

Estimates presented as median (interquartile range)

Footnote 1. 2015 WHO-reported coverage for DTP3 used for countries currently using RotaTeq. 2015 DTP2 coverage (estimated as mean of DTP1 and DTP3) used for countries currently using Rotarix or without a rotavirus vaccination program. Available from: <http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tscoveragedtp1.html> [Accessed 22 March 2017]