

Epidemiology and Infection

Malaria in China: a longitudinal population-based surveillance study

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Supplementary Material

Supplementary Table S1: The incidence and mortality of malaria in China from 1950 to 2016

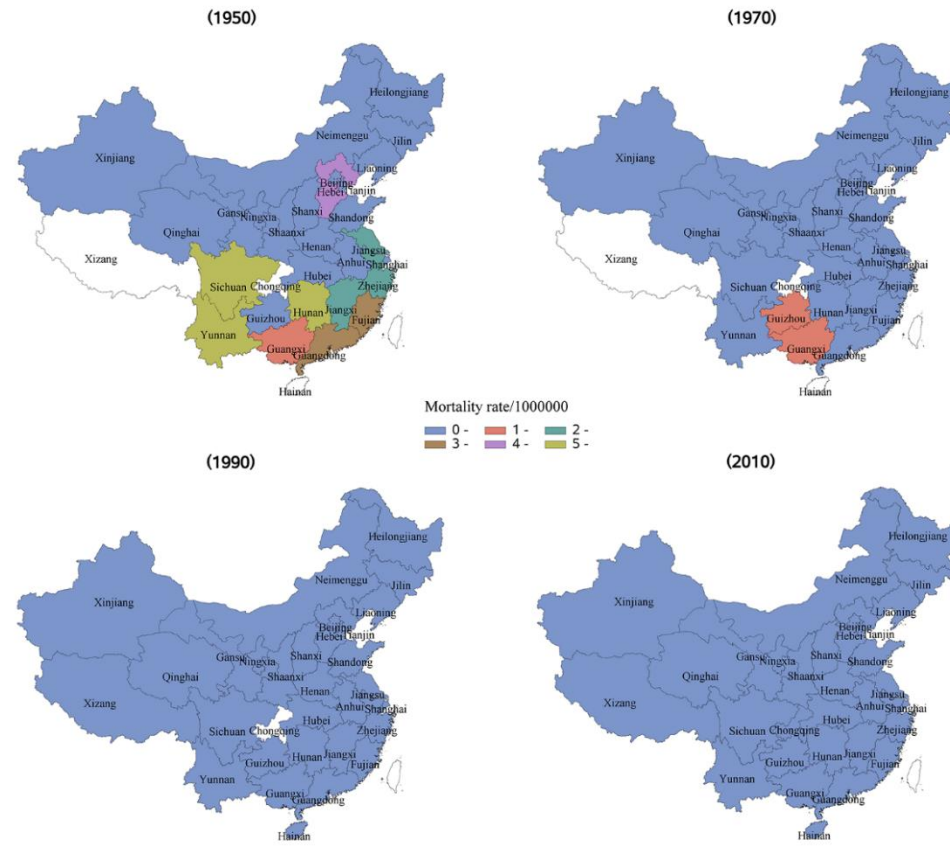
| Year | Cases | Incidence (95% CI) 1/100 000 | Deaths | Mortality (95% CI) 1/1 000 000 |
|------|----------|---------------------------------|--------|-----------------------------------|
| 1950 | 428900 | 77.705 (77.473, 77.938) | 2123 | 3.846 (3.686, 4.013) |
| 1951 | 1185417 | 210.554 (210.175, 210.933) | 1752 | 3.112 (2.970, 3.261) |
| 1952 | 2937289 | 510.993 (510.409, 511.578) | 3920 | 6.820 (6.609, 7.036) |
| 1953 | 4624208 | 786.483 (785.767, 787.201) | 3977 | 6.764 (6.557, 6.978) |
| 1954 | 6969731 | 1156.495 (1155.636, 1157.354) | 4657 | 7.727 (7.509, 7.953) |
| 1955 | 5970782 | 971.412 (970.633, 972.191) | 5528 | 8.994 (8.760, 9.234) |
| 1956 | 3081040 | 490.393 (489.846, 490.941) | 1875 | 2.984 (2.852, 3.123) |
| 1957 | 3612497 | 558.752 (558.176, 559.328) | 1581 | 2.445 (2.328, 2.569) |
| 1958 | 1393467 | 211.151 (210.800, 211.501) | 571 | 0.865 (0.797, 0.939) |
| 1959 | 1578705 | 234.902 (234.536, 235.269) | 544 | 0.809 (0.744, 0.880) |
| 1960 | 10236754 | 1546.174 (1545.227, 1547.121) | 399 | 0.603 (0.546, 0.665) |
| 1961 | 9638078 | 1463.441 (1462.518, 1464.365) | 781 | 1.186 (1.106, 1.272) |
| 1962 | 4814849 | 715.473 (714.834, 716.113) | 1584 | 2.354 (2.241, 2.473) |
| 1963 | 7684691 | 1110.954 (1110.169, 1111.740) | 2049 | 2.962 (2.837, 3.093) |

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|------|----------|-------------------------------|-----|----------------------|
| 1964 | 7299109 | 1035.349 (1034.598, 1036.101) | 407 | 0.577 (0.524, 0.636) |
| 1965 | 6452000 | 889.465 (888.779, 890.151) | 179 | 0.247 (0.213, 0.286) |
| 1966 | 4385540 | 588.331 (587.781, 588.882) | 126 | 0.169 (0.142, 0.201) |
| 1967 | 3096427 | 405.461 (405.010, 405.913) | 72 | 0.094 (0.075, 0.119) |
| 1968 | 4454915 | 567.259 (566.733, 567.786) | 82 | 0.104 (0.084, 0.130) |
| 1969 | 10780335 | 1336.333 (1335.536, 1337.131) | 139 | 0.172 (0.146, 0.203) |
| 1970 | 24115018 | 2905.704 (2904.544, 2906.864) | 239 | 0.288 (0.254, 0.327) |
| 1971 | 23837948 | 2796.929 (2795.807, 2798.052) | 400 | 0.469 (0.426, 0.518) |
| 1972 | 18549474 | 2127.794 (2126.826, 2128.763) | 394 | 0.452 (0.409, 0.499) |
| 1973 | 15097666 | 1692.355 (1691.501, 1693.209) | 499 | 0.559 (0.512, 0.611) |
| 1974 | 10264462 | 1129.713 (1129.022, 1130.405) | 218 | 0.240 (0.210, 0.274) |
| 1975 | 7196429 | 778.666 (778.097, 779.235) | 169 | 0.183 (0.157, 0.213) |
| 1976 | 4365388 | 465.805 (465.369, 466.243) | 95 | 0.101 (0.083, 0.124) |
| 1977 | 4929222 | 519.008 (518.550, 519.466) | 115 | 0.121 (0.101, 0.145) |
| 1978 | 3130456 | 325.212 (324.852, 325.572) | 125 | 0.130 (0.109, 0.155) |
| 1979 | 2487946 | 255.064 (254.747, 255.381) | 100 | 0.103 (0.084, 0.125) |
| 1980 | 3300349 | 334.365 (334.004, 334.726) | 64 | 0.065 (0.051, 0.083) |
| 1981 | 3059635 | 305.743 (305.401, 306.086) | 70 | 0.070 (0.055, 0.088) |
| 1982 | 2041359 | 200.814 (200.539, 201.090) | 61 | 0.060 (0.047, 0.077) |
| 1983 | 1377647 | 133.742 (133.519, 133.965) | 40 | 0.039 (0.028, 0.053) |
| 1984 | 903802 | 86.607 (86.428, 86.785) | 32 | 0.031 (0.022, 0.043) |
| 1985 | 563400 | 53.226 (53.087, 53.365) | 44 | 0.042 (0.031, 0.056) |
| 1986 | 363434 | 33.806 (33.696, 33.916) | 47 | 0.044 (0.033, 0.058) |
| 1987 | 210614 | 19.269 (19.187, 19.352) | 38 | 0.035 (0.025, 0.048) |
| 1988 | 134156 | 12.083 (12.019, 12.148) | 53 | 0.048 (0.036, 0.062) |
| 1989 | 137540 | 12.204 (12.139, 12.268) | 60 | 0.053 (0.041, 0.069) |

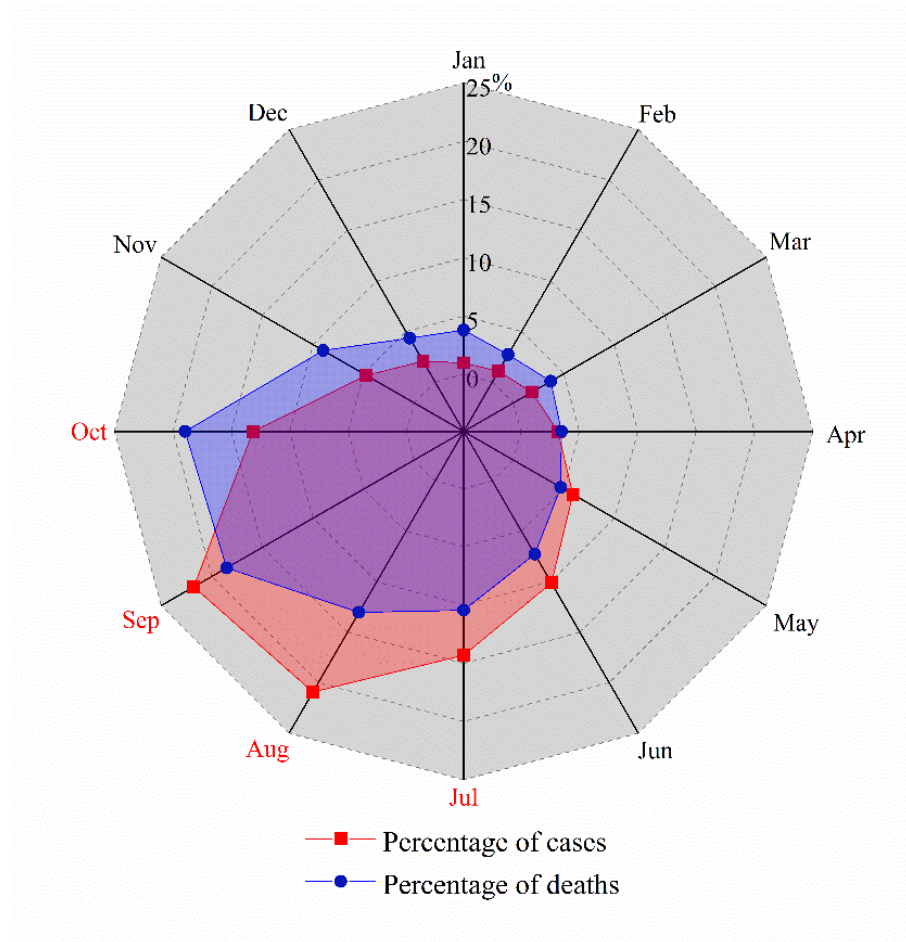
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|------|--------|-------------------------|----|----------------------|
| 1990 | 117359 | 10.265 (10.206, 10.324) | 35 | 0.031 (0.022, 0.043) |
| 1991 | 101636 | 8.775 (8.721, 8.829) | 45 | 0.039 (0.029, 0.052) |
| 1992 | 74017 | 6.317 (6.272, 6.363) | 52 | 0.044 (0.034, 0.058) |
| 1993 | 58569 | 4.942 (4.902, 4.982) | 19 | 0.016 (0.010, 0.025) |
| 1994 | 62124 | 5.183 (5.143, 5.224) | 43 | 0.036 (0.027, 0.048) |
| 1995 | 49675 | 4.101 (4.065, 4.137) | 34 | 0.028 (0.020, 0.039) |
| 1996 | 36683 | 2.997 (2.967, 3.028) | 27 | 0.022 (0.015, 0.032) |
| 1997 | 34650 | 2.803 (2.773, 2.832) | 46 | 0.037 (0.028, 0.050) |
| 1998 | 33473 | 2.683 (2.654, 2.712) | 36 | 0.029 (0.021, 0.040) |
| 1999 | 29667 | 2.359 (2.332, 2.386) | 68 | 0.054 (0.043, 0.069) |
| 2000 | 25064 | 1.978 (1.953, 2.002) | 40 | 0.032 (0.023, 0.043) |
| 2001 | 27274 | 2.137 (2.112, 2.163) | 30 | 0.024 (0.016, 0.034) |
| 2002 | 35475 | 2.762 (2.733, 2.791) | 49 | 0.038 (0.029, 0.050) |
| 2003 | 40506 | 3.134 (3.104, 3.165) | 57 | 0.044 (0.034, 0.057) |
| 2004 | 37537 | 2.888 (2.859, 2.917) | 32 | 0.025 (0.017, 0.035) |
| 2005 | 39656 | 3.033 (3.003, 3.063) | 45 | 0.034 (0.026, 0.046) |
| 2006 | 60193 | 4.579 (4.543, 4.616) | 34 | 0.026 (0.018, 0.036) |
| 2007 | 46673 | 3.532 (3.500, 3.565) | 14 | 0.011 (0.006, 0.018) |
| 2008 | 26358 | 1.985 (1.961, 2.009) | 22 | 0.017 (0.011, 0.025) |
| 2009 | 14098 | 1.056 (1.039, 1.074) | 10 | 0.007 (0.004, 0.014) |
| 2010 | 7389 | 0.551 (0.539, 0.564) | 14 | 0.010 (0.006, 0.018) |
| 2011 | 4088 | 0.303 (0.294, 0.313) | 30 | 0.022 (0.016, 0.032) |
| 2012 | 2451 | 0.181 (0.174, 0.188) | 15 | 0.011 (0.007, 0.018) |
| 2013 | 3896 | 0.286 (0.277, 0.295) | 20 | 0.015 (0.009, 0.023) |
| 2014 | 2921 | 0.214 (0.206, 0.221) | 24 | 0.018 (0.012, 0.026) |
| 2015 | 3116 | 0.227 (0.219, 0.235) | 20 | 0.015 (0.009, 0.023) |

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|-------|-----------|--------------------------|-------|----------------------|
| 2016 | 3147 | 0.228 (0.220, 0.236) | 15 | 0.011 (0.007, 0.018) |
| Total | 227668374 | 337.024(336.98, 337.068) | 36085 | 0.534 (0.529, 0.540) |

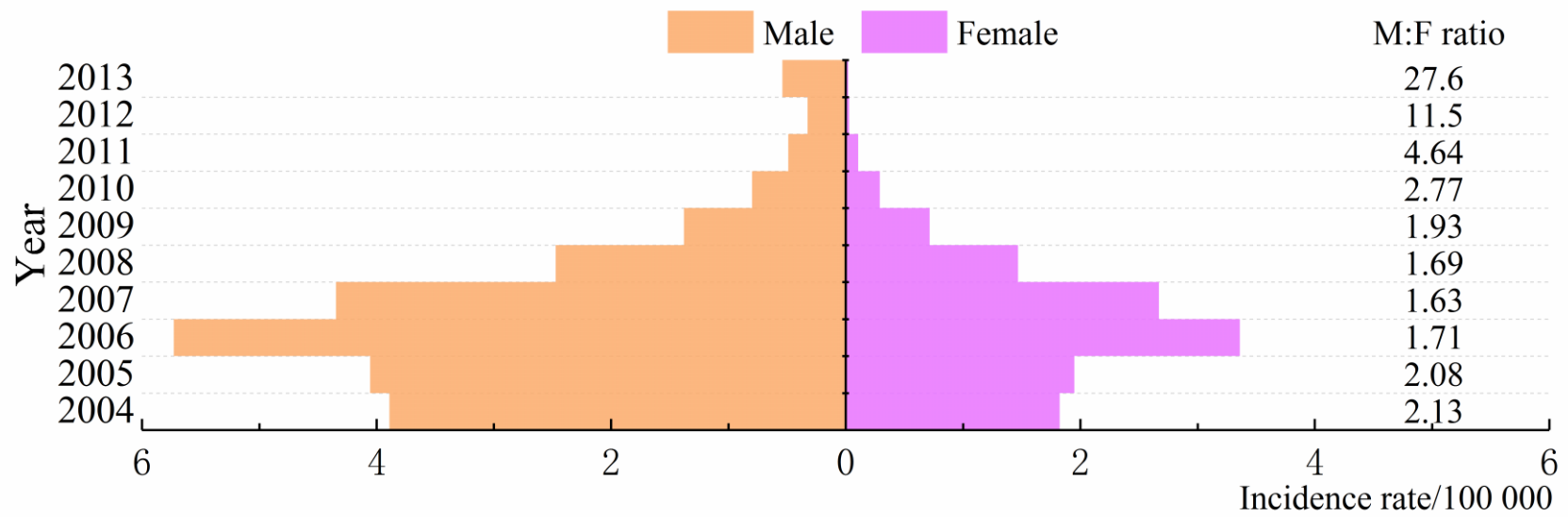
95% CI: 95% confidence interval.



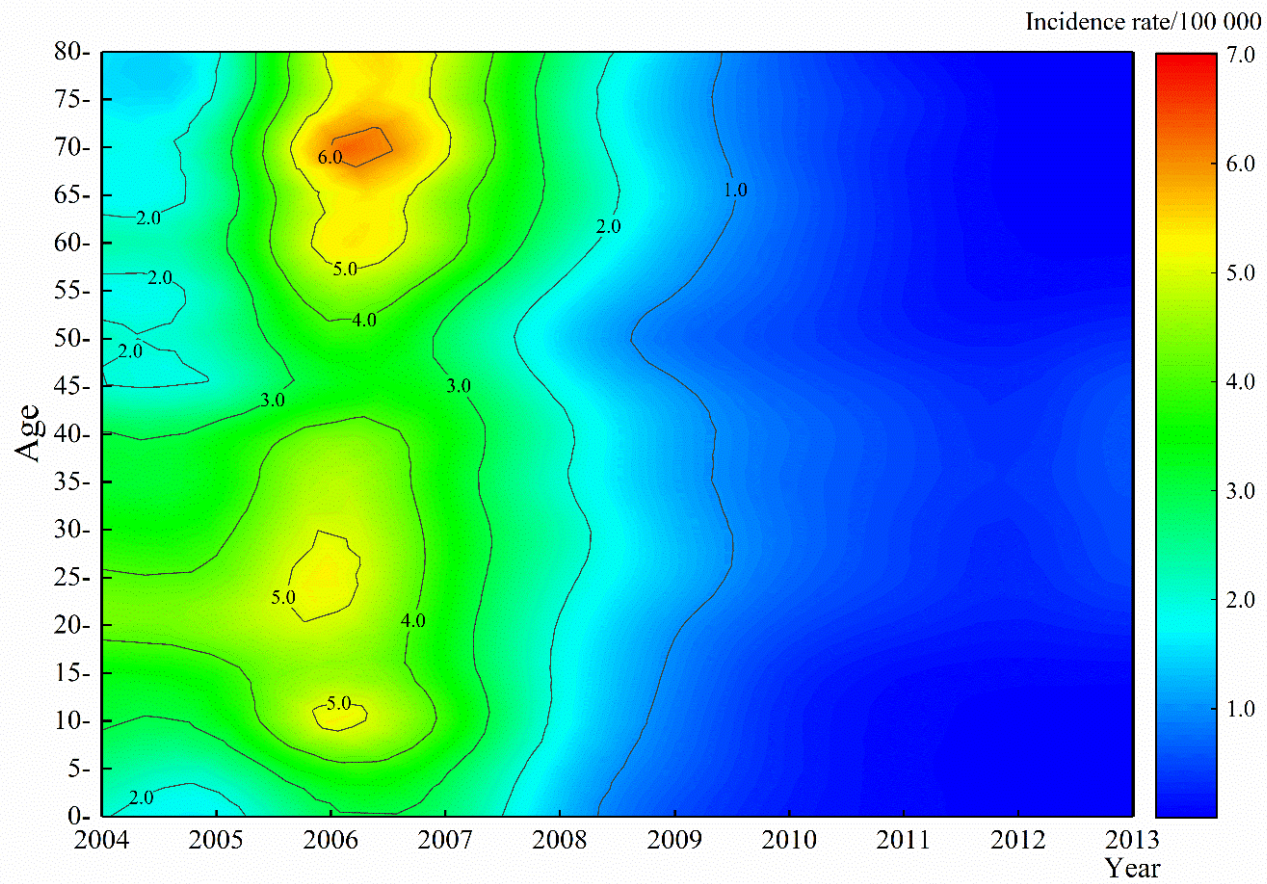
Supplementary Figure S1: Geographical distribution of malaria mortality in China



Supplementary Figure S2: Percentages of malaria cases and deaths by each month in China



Supplementary Figure S3: Malaria incidences among different genders in China from 2004 to 2013 (M:F ratio: Male-to-female ratio).



Supplementary Figure S4: Malaria incidences among different age groups in China during 2004 and 2013