**Table 1: Main characteristics of the studies included in the analysis.**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **First author or institution (year)** | **Study design** | **Region or country** | **Parameters evaluated** | **Study period** | **Sex (n, %)** | **Age, median or mean (IQR or SE)** | **Sexual orientation and gender identity, n (%)** | **People living with HIV (n, %)** |
| Africa CDC (2022) | Surveillance report | Africa | CFR | Up to Jan, 2023 | NA | NA | NA | NA |
| UKHSA (2022a) | Surveillance report | UK | IP, SI, CFR | May 6 to June 8, 2022 | Female (3/314,0.9)  Male (311/314,  99.1) | Median 38 (IQR 32-44) | 151/152 men identified as GBMSM | NA |
| UKHSA (2022b) | Surveillance report | UK | IP, CFR | May 6 to June 22, 2022 | Female (5/810,0.6)  Male (805/810,  99.4) | Median 37 (IQR 31-43) | 308/321 (96%) men identified as GBMSM | 90/321 (28) |
| Alvarez-Moreno (2023) | Cross-sectional study | Colombia | CFR | June 29 to  November 16, 2022. | Female (25/521, 4,8)  Male (496/521, 95.2) | Median 32.6 (IQR 28-38.3) | NA | 367/521 (70.4) |
| Angelo (2023) | Cross-sectional study | Global | IP, CFR | May 1 to July 1, 2022 | Male (226/226,100) | Median 37 (IQR 32-43) |  | 92/209 (44) |
| Betti (2022) | Mathematical model | Global | R0 | May to Aug, 2022 | NA | NA | NA | NA |
| Bragazzi (2023) | Mathematical model | Canada | R0 | May 19 to July 25, 2022 | NA | NA | NA | NA |
| Branda (2022) | Mathematical model | Europe | R0 | May to Aug, 2022 | NA | NA | NA | NA |
| Català (2022) | Prospective cross-sectional study | Spain | IP, CFR | May 28 to July 14, 2022 | Male (185/185,  100) | Mean 38.7 (SE 8.2) | 184/185 (99%) men identified as GBMS | 78/185(42) |
| Charniga (2022) | Mathematical model | USA | IP | May 17 to June 6, 2022 | Male 22/22 (100) | Range 28 to 61 | 22/22 (100) men identified as GBMSM | NA |
| Chitwood (2023) | Mathematical model | USA | R(t) | May to Nov, 2022 | NA | NA | NA | NA |
| Choudhury (2022) | Case series | Germany | IP, CFR | May to September, 2022 | Male 179/179 (100) | Mean 38 (Range 20-67) | 164/169 (97) men identified as GBMSM | 55/131 (42) |
| Cobos (2023) | Case series | Spain | IP, CFR | May 19 to June 7, 2022 | Male 30/30 (100) | Mean 33 | 30/30 (100) men identified as GBMSM | 14/30 (47) |
| Diaz-Brochero (2023) | Mathematical model | Latin America | R(t) | June to November, 2022 | NA | NA | NA | NA |
| Du (2022) | Mathematical model | USA, Europe | R(t) | May to July, 2022 | NA | NA | NA | NA |
| Endo (2022) | Mathematical model | Global | R0 | Up to May 31, 2022 | NA | NA | NA | NA |
| Eustaquio (2023) | Surveillance report | USA | CFR | May 10, 2022, to May 17, 2023 | NA | 2,909/29,984 (9.7%) were aged >50 | -Cisgender men 28,475/29,984 (94.9)  -Cisgender women 897/29,984 (2.9)  -Transgender men 55/29,984 (0.2)  -Transgender women 229/29,984 (0.8)  -Other gender identity 236/29,984 (0.8) | 4,798 (55.4) among 18–50 yrs  552 (66.2) among >50 yrs |
| Gao (2023) | Mathematical model | Global | R0 | January to August,2022 | NA | NA | NA | NA |
| Garcia-Garcia (2023) | Mathematical model | Spain | R(t) | April to August 2022 | NA | NA | NA | NA |
| Gaspari (2022) | Case series | Italy | IP, CFR | June 20 to August 10, 2022 | Male 30/30 (100) | Mean 37.5 (Range 21-65) | 30/30 (100) men identified as GBMSM\* | 12/30 (40) |
| Gomez-Garberi (2022) | Case series | Spain | IP, CFR | May to August 2022 | Male 14/14 (100) | Median 42 (Range 20-56) | 10/14 (71) men identified as GBMSM\* | 8/14 (57) |
| Guo (2022) | Mathematical model | Global | SI, R0 | January to August, 2022 | NA | NA | NA | NA |
| Guzzetta (2022) | Mathematical model | Italy | IP, GT, R0, CFR | May to June, 2022 | Female (2/255,0.8)  Male (253/255,  99.2) | Median 37 (range 20–71) | 190/200 (95) men identified as GBMSM | NA |
| Kroger (2023) | Case series | Germany | IP, CFR | May 22 to October 30, 2022 | Female (1/368,0.3)  Male (367/368,  99.7) | Median 41 (range 12-80) | 247(67) men identified as GBMSM\* | 143/368 (39) |
| Kwok (2022) | Mathematical model | Europe | R0 | May 18 to June 18, 2022 | NA | NA | NA | NA |
| Liao (2023) | Mathematical model | USA, Brazil, UK,DRC | R(t) | May to September, 2022 | NA | NA | NA | NA |
| Madewell (2023) | Mathematical model | USA | IP, SI | May to August, 2022 | Female (5/112,5)  Male (106/112,  95) | Median 35 (Range 1-76) | NA | NA |
| McFarland (2023) | Mathematical model | Germany | IP | May to June 2022 | NA | NA | NA | NA |
| Mailhe (2023) | Case series | France | IP, CFR | May to July, 2022 | Female (1/263, 0.3)  Male (262/263, 99.7) | Median 35 (Range 30-41) | 245/262 (93.5) men identified as GBMSM | 73/256 (29) |
| Maldonado (2023) | Case series | Peru | IP, CFR | July 1 to September 3, 2022. | Female (3/205, 1.5)  Male (202/205, 98.5) | Median 32 (Range 28-38) | 192/205 (94) men identified as GBMSM | 136/205 (66) |
| Miura (2022) | Mathematical model | Netherlands | IP | Up to May, 2022 | Male 18 pairs (100) | NA | NA | NA |
| Miura (2023) | Mathematical model | Netherlands | IP, SI, R0 | May to September, 2022 | Male 109 pairs (100) | NA | 109 pairs (100) men identified as GBMSM. | NA |
| Mitjà (2023) | Case series | Global | CFR | May 11, 2022, and  January 18, 2023, | NA | Median 35 (Range 30–43) | -Cisgender women 4 (1)  -Transgender women 10 (3)  -Cisgender men 367 (96)  -Non-binary  Individual 1 (0) | 382/382 (100) |
| Moschese (2023) | Case series | Italy | IP, CFR | May to June, 2022 | Male (32/32, 100) | Median 38 (Range 34-42) | 32 (100) men identified as GBMSM | 16/32 (50) |
| Núñez (2023) | Surveillance-based study | Mexico | IP, CFR | May 1 to September 10, 2022 | Female (16/565, 2.8)  Male 549/565 (97.2) | Median 34 (Range (30–41) | 327/565 (59.6) men identified as GBMSM | 299/565 (52.9) |
| Musa (2022) | Mathematical model | Nigeria | R(t) | January to September, 2022 | NA | NA | NA | NA |
| Ogoina (2023) | Cohort study | Nigeria | CFR | February 1, 2022, to January 30, 2023 | Female 46/160 (29)  Male 114/160 (71) | <18 years 26/160 (16%)  18–35 years 82/160 (51%)  >35 years 52/160 (33%) | NA | Advanced HIV disease 11/160 (7)  Stable HIV 14/160 (9)  No HIV 69/160 (43)  Unknown HIV status 66/160 (41) |
| O’Laughlin (2022) | Case series | USA | IP, CFR | May to August, 2022 | Female 12/549 (2.3)  Male 515/549 (97.7) | Median 36.5 (IQR 31.4–43.9) | NA | 254/549 (46.3) |
| Riser (2023) | Surveillance report | USA | CFR | May 10, 2022, to March 7, 2023 | NA | Median 34 (Range 0–89) | Survivors (n = 30,183)  Cisgender man 24,759 (94.9)  Cisgender woman 806 (3.1)  Transgender man 55 (0.2)  Transgender woman 227 (0.9)  Another gender identity 235 (0.9)  Decedents (n = 38)  Cisgender man 36 (94.7)  Cisgender woman 1 (2.6)  Transgender man 0 (—)  Transgender woman 1 (2.6) | Survivors: HIV positive 5,186 (38.3)  Decedents: HIV positive 31 (93.9) |
| Saldaña (2022) | Mathematical model | Europe | R(t) | May to September, 2022 | NA | NA | NA | NA |
| Schrarstzhaupt (2022) | Mathematical model | Brazil | R(t) | June to August 22, 2022 | NA | NA | NA | NA |
| Suárez Rodríguez (2022) | Case series | Spain | IP, CFR | May to June, 2022 | Female 14/1256 (1.1) Male 1242/1256 (98.9) | Median 37 | 290/332 (87.3) men identified as GBMSM | NA |
| Tarín-Vicente (2022) | Multicentre, prospective, observational cohort study | Spain | IP, CFR | May 11 to June 29, 2022 | Female 6/181 (3)  Male 175/181 (97) | Median 37, (IQR 31-42) | 166/175 (95) men identified as GBMSM, 9/175 (5) men identified as heterosexual, 6/6 (100) women identified as heterosexual | 72/181 (40) |
| Thornhill (2022) | Case series | Global | IP, CFR | April to June, 2022 | Female 0  Male 527/528 (99.8)  Trans or nonbinary 1/528 (<1) | Median 38 (Range 18–68) | Heterosexual 9/528 (2), Homosexual 509/528 (96), Bisexual 10 (2) | HIV positive 218 (41)  HIV negative or status unknown 310 (59) |
| Thornhill (2022) | Case series | Global | IP, CFR | September 10 to October 4, 2022. | All female sex at birth | Median 34 (IQR 28–40; range 19–84) | 62 trans women, 69 cis women, and five non-binary individuals. 121/136 (89) reported sex with men. | 37/136 (27) |
| Ward (2022) | Mathematical model | UK | IP, SI | May 6 to August 1, 2022. | NA | Mean 37.8 (SE 9.1) | 1160/1213 (95) men identified as GBMSM | NA |
| Wei (2022) | Mathematical model | Global | Infectious period, GT, R0, IP | May to October, 2022 | NA | NA | NA | NA |

GBMSM: gay, bisexual, and other men who have sex with men, NA: not available or applicable, IQR: interquartile range, SE: Standard deviation, USA: United States of America, UK: The United Kingdom, DRC: Democratic Republic of Congo; CFR: Case fatality rate; IP: Incubation period; SI: Serial interval; GT: Generation time; R0: Basic reproduction number; R(t): Effective reproduction number.