# Cost-effectiveness of antibody-drug conjugates in previously treated metastatic triple-negative breast cancer in China

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**Supplementary Table 1** | CHEERS Checklist 2022

| Section | Item No | Guidance for reporting | Reported |
|---|---|---|---|
| **Title** | | | |
| Title | 1 | Identify the study as an economic evaluation and specify the interventions being compared | Title |
| **Abstract** | | | |
| Abstract | 2 | Provide a structured summary that highlights context, key methods, results, and alternative analyses | Abstract |
| **Introduction** | | | |
| Background and objectives | 3 | Give the context for the study, the study question, and its practical relevance for decision making in policy or practice | Introduction |
| **Methods** | | | |
| Health economic analysis plan | 4 | Indicate whether a health economic analysis plan was developed and where available | Not applicable |
| Study population | 5 | Describe characteristics of the study population (such as age range, demographics, socioeconomic, or clinical characteristics) | Patients and treatments |
| Setting and location | 6 | Provide relevant contextual information that may influence findings | Model structure |
| Comparators | 7 | Describe the interventions or strategies being compared and why chosen | Patients and treatments |
| Perspective | 8 | State the perspective(s) adopted by the study and why chosen | Model structure |
| Time horizon | 9 | State the time horizon for the study and why appropriate | Model structure |
| Discount rate | 10 | Report the discount rate(s) and reason chosen | Model structure |
| Selection of outcomes | 11 | Describe what outcomes were used as the measure(s) of benefit(s) and harm(s) | Model structure, Clinical data and Utilities |
| Measurement of outcomes | 12 | Describe how outcomes used to capture benefit(s) and harm(s) were measured | Model structure, Clinical Data and Utilities |
| Valuation of outcomes | 13 | Describe the population and methods used to measure and value outcomes | Model structure |
| Measurement and valuation of resources and costs | 14 | Describe how costs were valued | Costs |
| Currency, price date, and conversion | 15 | Report the dates of the estimated resource quantities and unit costs, plus the currency and year of conversion | Model structure |
| Rationale and description of model | 16 | If modelling is used, describe in detail and why used. Report if the model is publicly available and where it can be accessed | Model structure |
| Analytics and assumptions | 17 | Describe any methods for analysing or statistically transforming data, any extrapolation methods, and approaches for validating any model used | Model structure |

| | | | |
|---|---|---|---|
| Characterising heterogeneity | 18 | Describe any methods used for estimating how the results of the study vary for subgroups | Scenario Analyses |
| Characterising distributional effects | 19 | Describe how impacts are distributed across different individuals or adjustments made to reflect priority populations | Not applicable |
| Characterising uncertainty | 20 | Describe methods to characterise any sources of uncertainty in the analysis | Sensitivity Analyses |
| Approach to engagement with patients and others affected by the study | 21 | Describe any approaches to engage patients or service recipients, the general public, communities, or stakeholders (such as clinicians or payers) in the design of the study | Scenario Analyses and Sensitivity Analyses |
| **Results** | | | |
| Study parameters | 22 | Report all analytic inputs (such as values, ranges, references) including uncertainty or distributional assumptions | Table 1 |
| Summary of main results | 23 | Report the mean values for the main categories of costs and outcomes of interest and summarise them in the most appropriate overall measure | Base-Case Results |
| Effect of uncertainty | 24 | Describe how uncertainty about analytic judgments, inputs, or projections affect findings. Report the effect of choice of discount rate and time horizon, if applicable | Sensitivity Analyses |
| Effect of engagement with patients and others affected by the study | 25 | Report on any difference patient/service recipient, general public, community, or stakeholder involvement made to the approach or findings of the study | Scenario Analyses and Sensitivity Analyses |
| **Discussion** | | | |
| Study findings, limitations, generalisability, and current knowledge | 26 | Report key findings, limitations, ethical or equity considerations not captured, and how these could affect patients, policy, or practice | Discussion |
| Other relevant information Source of funding | 27 | Describe how the study was funded and any role of the funder in the identification, design, conduct, and reporting of the analysis | Funding |
| Conflicts of interest | 28 | Report authors conflicts of interest according to journal or International Committee of Medical Journal Editors requirements | Disclosure |

**Supplementary Table 2** | Summary of statistical goodness-of-fit of Kaplan-Meier curves

| | Exponential | Weibull | Gamma | Generalised gamma | Gompertz | Lognormal | Log-logistic |
|---|---|---|---|---|---|---|---|
| **The ASCENT trial** | | | | | | | |
| **Chemotherapy-PFS** | | | | | | | |
| parameter 1 | 0.3031 | 1.3192 | 1.9254 | 0.7680 | 0.0127 | 0.8160 | 2.3680 |
| parameter 2 | | 3.3295 | 0.6462 | 0.7837 | 0.2949 | 0.7770 | 2.1680 |
| parameter 3 | | | | -0.1362 | | | |
| AIC | 800.5325 | 777.9451 | 759.0014 | 729.1694 | 802.3461 | 727.9973 | 717.1061 |
| BIC | 804.1009 | 785.0818 | 766.1381 | 739.8744 | 809.4828 | 735.1340 | 724.2428 |
| **Chemotherapy-OS** | | | | | | | |
| parameter 1 | 0.1081 | 1.3145 | 1.6275 | 1.9922 | 0.0348 | 1.8558 | 1.8900 |
| parameter 2 | | 9.4446 | 0.1863 | 0.8794 | 0.0878 | 0.9337 | 6.5070 |
| parameter 3 | | | | 0.3356 | | | |
| AIC | 1343.4480 | 1323.9210 | 1318.3490 | 1314.9440 | 1339.5880 | 1316.0440 | 1311.8230 |
| BIC | 1347.0160 | 1331.0580 | 1325.4860 | 1325.6500 | 1346.7250 | 1323.1810 | 1318.9600 |
| **Sacituzumab govitecan-PFS** | | | | | | | |
| parameter 1 | 0.1430 | 1.2260 | 1.4766 | 1.3414 | 0.0199 | 1.5288 | 1.7180 |
| parameter 2 | | 6.9570 | 0.2276 | 0.9937 | 0.1320 | 0.9732 | 4.5930 |
| parameter 3 | | | | -0.4304 | | | |
| AIC | 1091.5910 | 1082.3810 | 1076.6930 | 1056.5890 | 1092.7290 | 1057.1780 | 1065.8200 |
| BIC | 1095.1780 | 1089.5550 | 1083.8670 | 1067.3510 | 1099.9030 | 1064.3530 | 1072.9950 |
| **Sacituzumab govitecan-OS** | | | | | | | |
| parameter 1 | 0.0613 | 1.3742 | 1.5595 | 2.7540 | 0.0557 | 2.4240 | 1.7310 |
| parameter 2 | | 15.5010 | 0.1061 | 0.7123 | 0.0395 | 1.0903 | 11.5370 |
| parameter 3 | | | | 1.0504 | | | |
| AIC | 1374.9420 | 1355.6390 | 1356.7580 | 1357.5960 | 1360.6380 | 1378.4380 | 1361.3730 |
| BIC | 1378.5290 | 1362.8130 | 1363.9320 | 1368.3580 | 1367.8130 | 1385.6120 | 1368.5470 |
| **The OptiTROP-Breast01 trial** | | | | | | | |
| **Chemotherapy-PFS** | | | | | | | |
| parameter 1 | 0.3026 | 1.4620 | 2.1569 | 0.8426 | 0.1159 | 0.8998 | 2.3800 |
| parameter 2 | | 3.5050 | 0.6861 | 0.7276 | 0.2274 | 0.7260 | 2.4110 |
| parameter 3 | | | | -0.1630 | | | |
| AIC | 493.7261 | 471.4447 | 462.9298 | 453.6102 | 488.4243 | 452.0591 | 453.9744 |
| BIC | 496.6164 | 477.2254 | 468.7105 | 462.2812 | 494.2050 | 457.8398 | 459.7551 |
| **Chemotherapy-OS** | | | | | | | |
| parameter 1 | 0.0669 | 1.7400 | 2.2550 | 2.4270 | 0.1360 | 2.2848 | 2.1200 |
| parameter 2 | | 12.1700 | 0.1975 | 0.6790 | 0.0319 | 0.8614 | 9.7060 |
| parameter 3 | | | | 0.6250 | | | |
| AIC | 520.5933 | 499.8350 | 499.0619 | 501.0508 | 506.7110 | 501.7795 | 499.0333 |
| BIC | 523.4836 | 505.6157 | 504.8426 | 509.7219 | 512.4917 | 507.5602 | 504.8140 |
| **Sacituzumab tirumotecan-PFS** | | | | | | | |
| parameter 1 | 0.1133 | 1.3710 | 1.6314 | 1.8196 | 0.0872 | 1.7814 | 1.7340 |
| parameter 2 | | 8.3580 | 0.2087 | 0.9647 | 0.0784 | 0.9834 | 6.0600 |
| parameter 3 | | | | 0.0994 | | | |

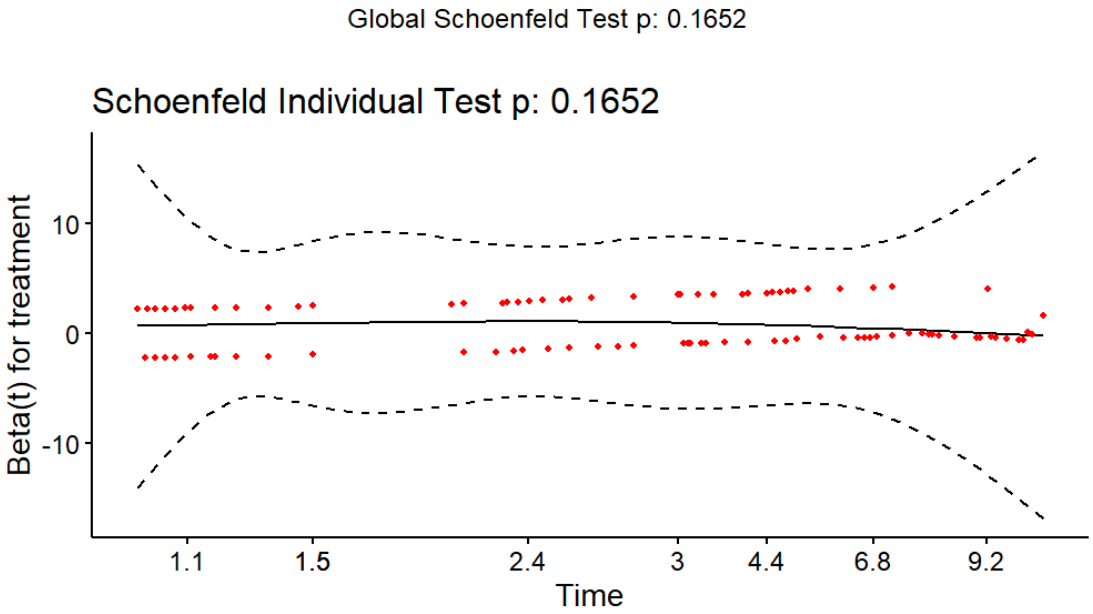
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AIC | 516.7306 | 508.7152 | 507.5076 | 507.6156 | 513.2247 | 505.6546 | 508.2613 |
| BIC | 519.5981 | 514.4503 | 513.2426 | 516.2182 | 518.9598 | 511.3897 | 513.9964 |
| **Sacituzumab tirumotecan-OS** | | | | | | | |
| parameter 1 | 0.0373 | 1.661 | 1.9259 | 2.9070 | 0.1245 | 2.8230 | 1.8770 |
| parameter 2 | | 18.286 | 0.1065 | 0.5950 | 0.0177 | 1.0600 | 15.2670 |
| parameter 3 | | | | 1.0190 | | | |
| AIC | 379.5373 | 370.063 | 370.3580 | 372.0615 | 372.2967 | 373.4939 | 370.1662 |
| BIC | 382.4048 | 375.798 | 376.0931 | 380.6641 | 378.0318 | 379.2290 | 375.9013 |

PFS, progression-free survival; OS, overall survival; AIC, Akaike information criterion; BIC, Bayesian information criterion.

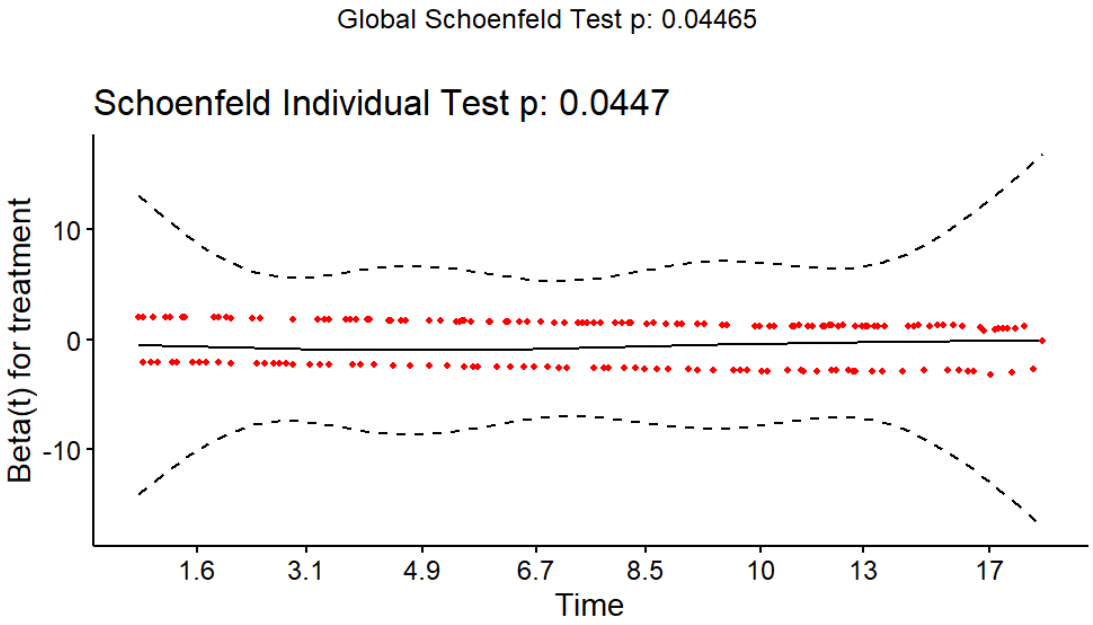
**Supplementary Table 3** | Scenario analysis results.

| Strategy | Costs, $ | LYs | QALYs | ICER ($/LY) | | ICER ($/QALY) | |
|---|---|---|---|---|---|---|---|
| **The utility value for PFS and PD states were 0.76 and 0.55.** | | | | | | | |
| Chemotherapy | 7,298.82 | 1.01 | 0.58 | — | | — | |
| Sacituzumab tirumotecan | 42,841.93 | 1.39 | 0.88 | 92,593.65 | — | 118,528.79 | — |
| Sacituzumab govitecan | 88,438.88 | 1.24 | 0.78 | 348,005.00 | Dominated | 408,981.94 | Dominated |
| **The utility value for PFS and PD states were 0.85 and 0.52.** | | | | | | | |
| Chemotherapy | 7,298.82 | 1.01 | 0.58 | — | | — | |
| Sacituzumab tirumotecan | 42,841.93 | 1.39 | 0.93 | 92,593.65 | — | 102,441.79 | — |
| Sacituzumab govitecan | 88,438.88 | 1.24 | 0.82 | 348,005.00 | Dominated | 341,510.45 | Dominated |
| **Mapping EQ-5D-5L** | | | | | | | |
| Chemotherapy | 7,298.82 | 1.01 | 0.56 | — | | — | |
| Sacituzumab tirumotecan | 42,841.93 | 1.39 | 0.89 | 92,593.65 | — | 106,292.34 | — |
| Sacituzumab govitecan | 88,438.88 | 1.24 | 0.79 | 348,005.00 | Dominated | 352,279.44 | Dominated |
| **Mapping EQ-SF-6D** | | | | | | | |
| Chemotherapy | 7,298.82 | 1.01 | 0.40 | — | | — | |
| Sacituzumab tirumotecan | 42,841.93 | 1.39 | 0.67 | 92,593.65 | — | 133,587.49 | — |
| Sacituzumab govitecan | 88,438.88 | 1.24 | 0.59 | 348,005.00 | Dominated | 433,366.08 | Dominated |
| **Network meta-analysis (PFS)** | | | | | | | |
| Chemotherapy | 7,298.82 | 1.01 | 0.49 | — | | — | |
| Sacituzumab tirumotecan | 48,365.11 | 1.75 | 0.92 | 55,105.33 | — | 95,313.80 | — |
| Sacituzumab govitecan | 87,084.09 | 1.31 | 0.71 | 268,684.30 | Dominated | 370,354.26 | Dominated |
| **Network meta-analysis (PFS and OS)** | | | | | | | |
| Chemotherapy | 7,298.82 | 1.01 | 0.49 | — | | — | |
| Sacituzumab tirumotecan | 63,708.22 | 2.13 | 1.13 | 50,221.13 | — | 88,294.97 | — |
| Sacituzumab govitecan | 104,430.20 | 2.23 | 1.06 | 79,707.78 | 426,976.01 | 370,354.26 | Dominated |
| **Proportion of patients added** | | | | | | | |
| Chemotherapy | 5,768.38 | 1.01 | 0.49 | — | | — | |
| Sacituzumab tirumotecan | 40,635.00 | 1.39 | 0.78 | 90,831.33 | — | 120,155.27 | — |
| Sacituzumab govitecan | 87,339.22 | 1.24 | 0.69 | 349,852.57 | Dominated | 411,391.83 | Dominated |

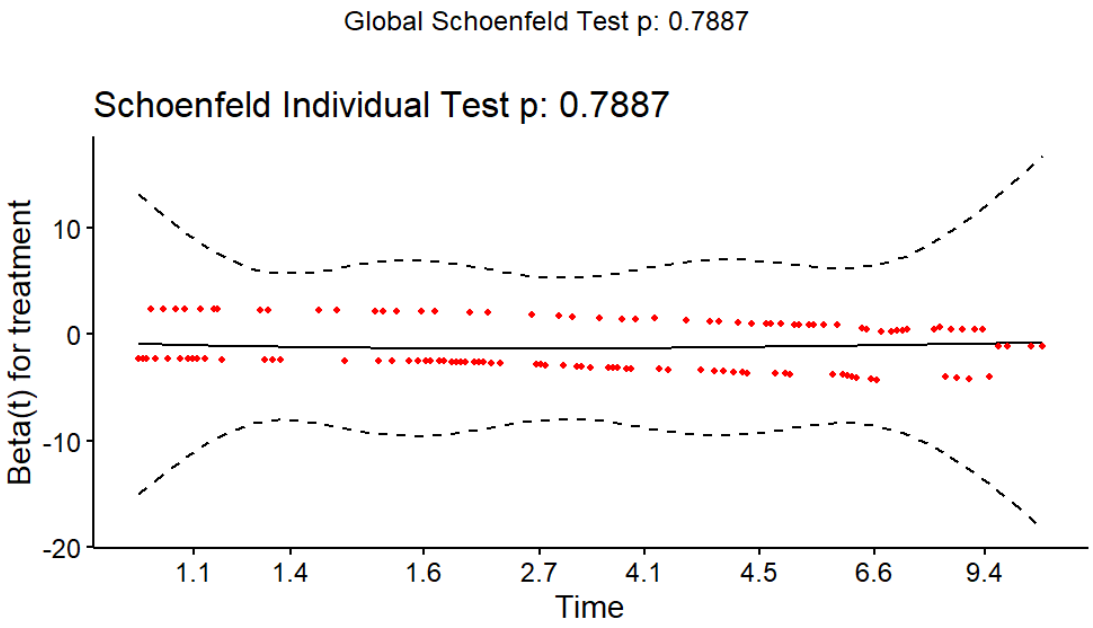
LY: life-year; QALY: quality-adjusted life-year; ICER: incremental cost-effectiveness ratio.



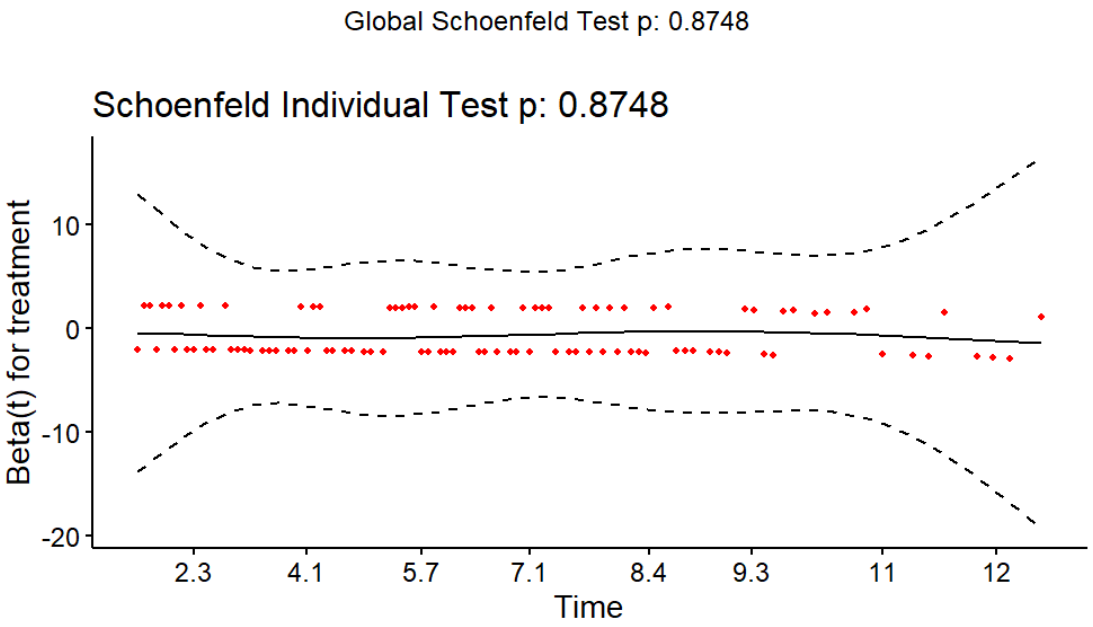

**Supplementary Figure 1** | Schoenfeld residual plots for progression-free survival in the ASCENT trial.



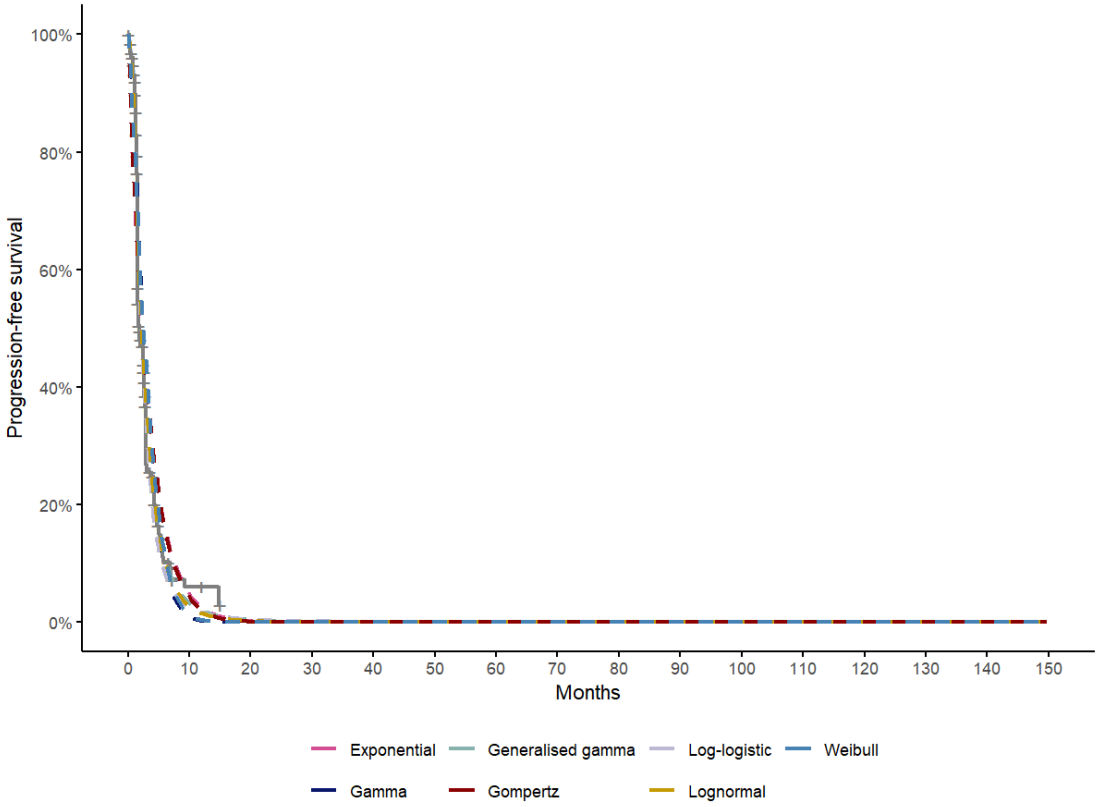

**Supplementary Figure 2** | Schoenfeld residual plots for overall survival in the ASCENT trial.



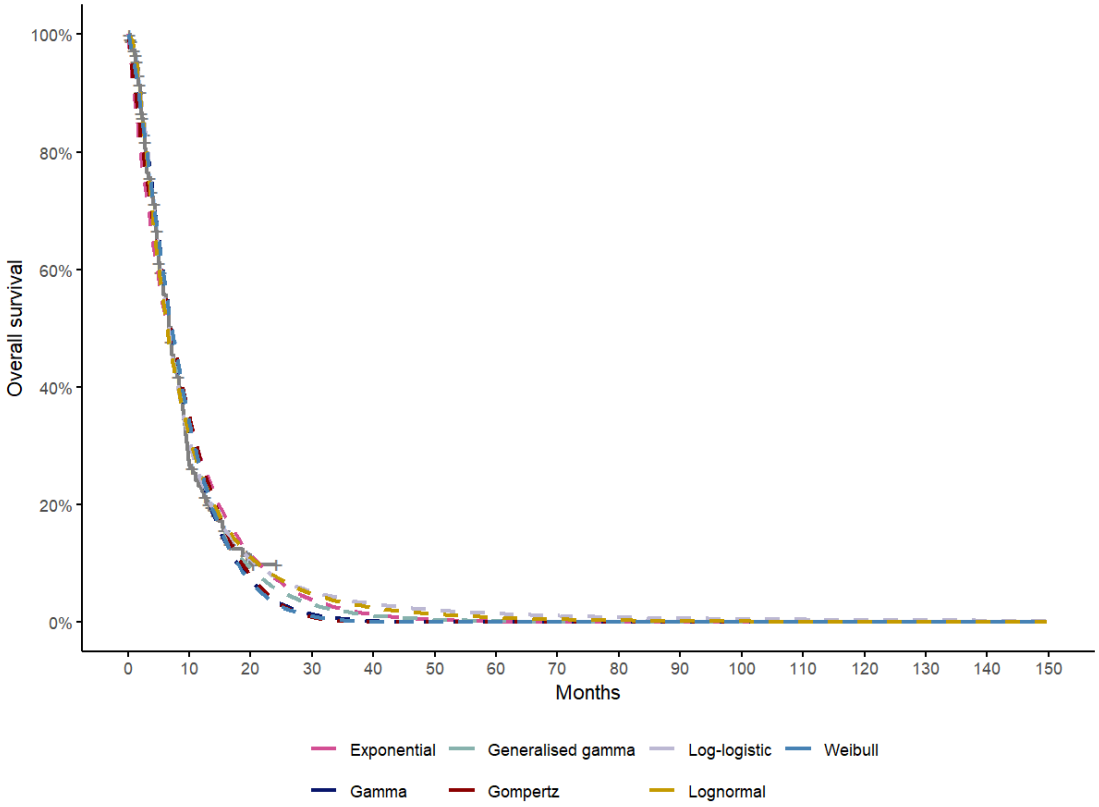

**Supplementary Figure 3** | Schoenfeld residual plots for progression-free survival in the OptiTROP-Breast01 trial.



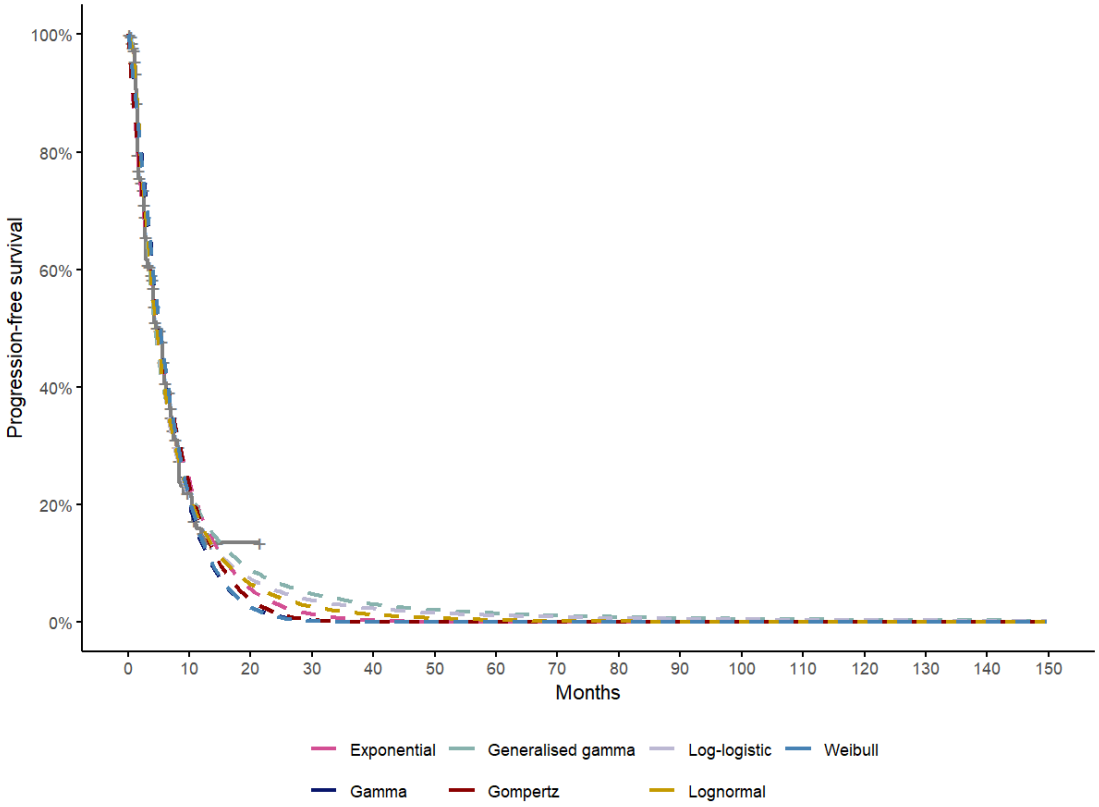

**Supplementary Figure 4** | Schoenfeld residual plots for overall survival in the OptiTROP-Breast01 trial.



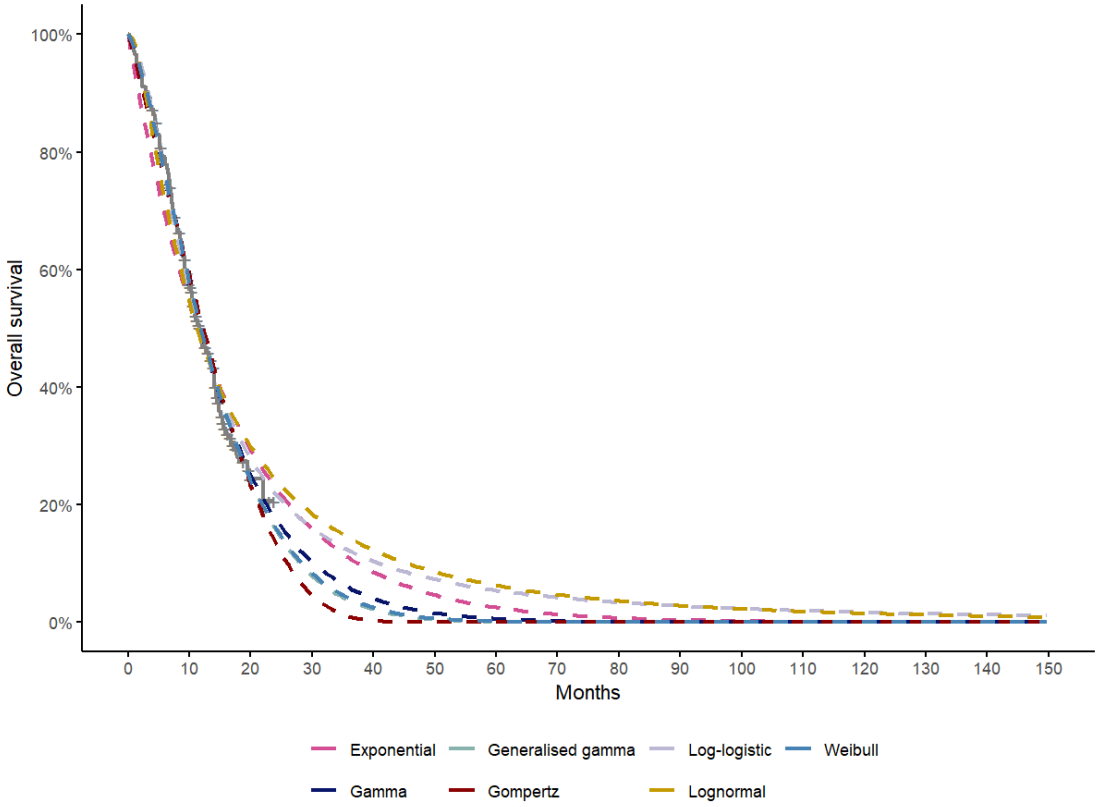

**Supplementary Figure 5** | The reconstructed Kaplan-Meier PFS curve of chemotherapy in the ASCENT trial.



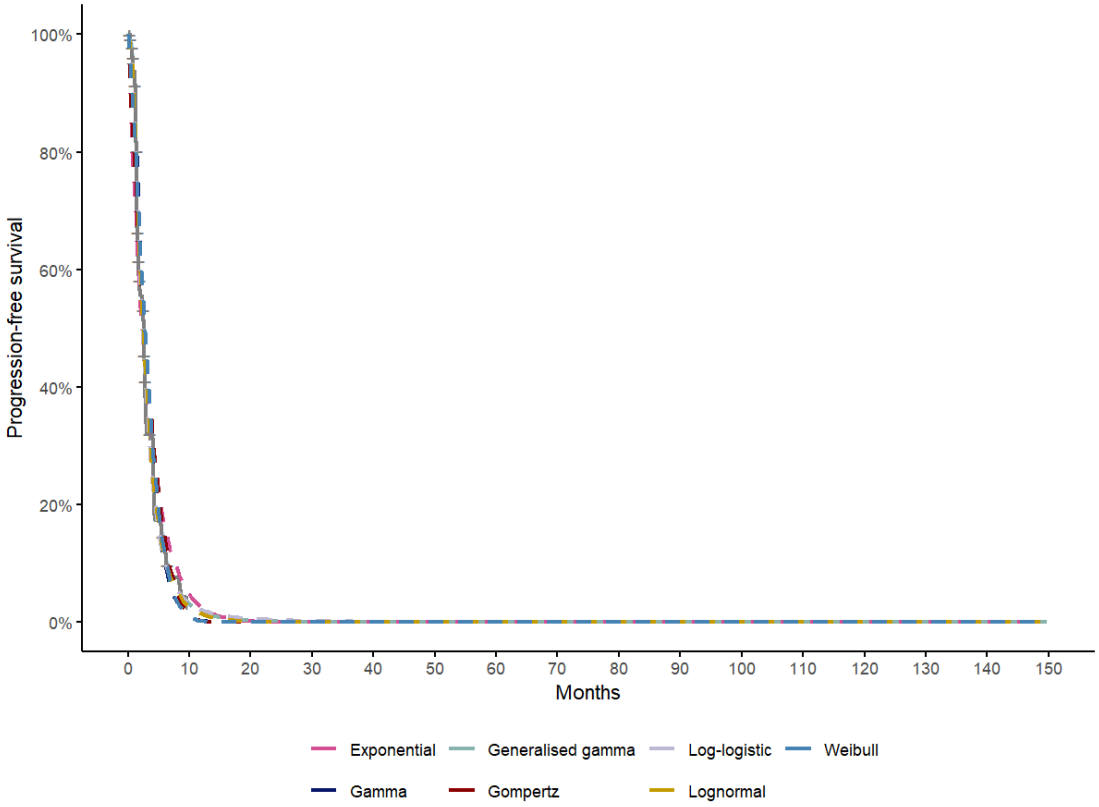

**Supplementary Figure 6** | The reconstructed Kaplan-Meier OS curve of chemotherapy in the ASCENT trial.



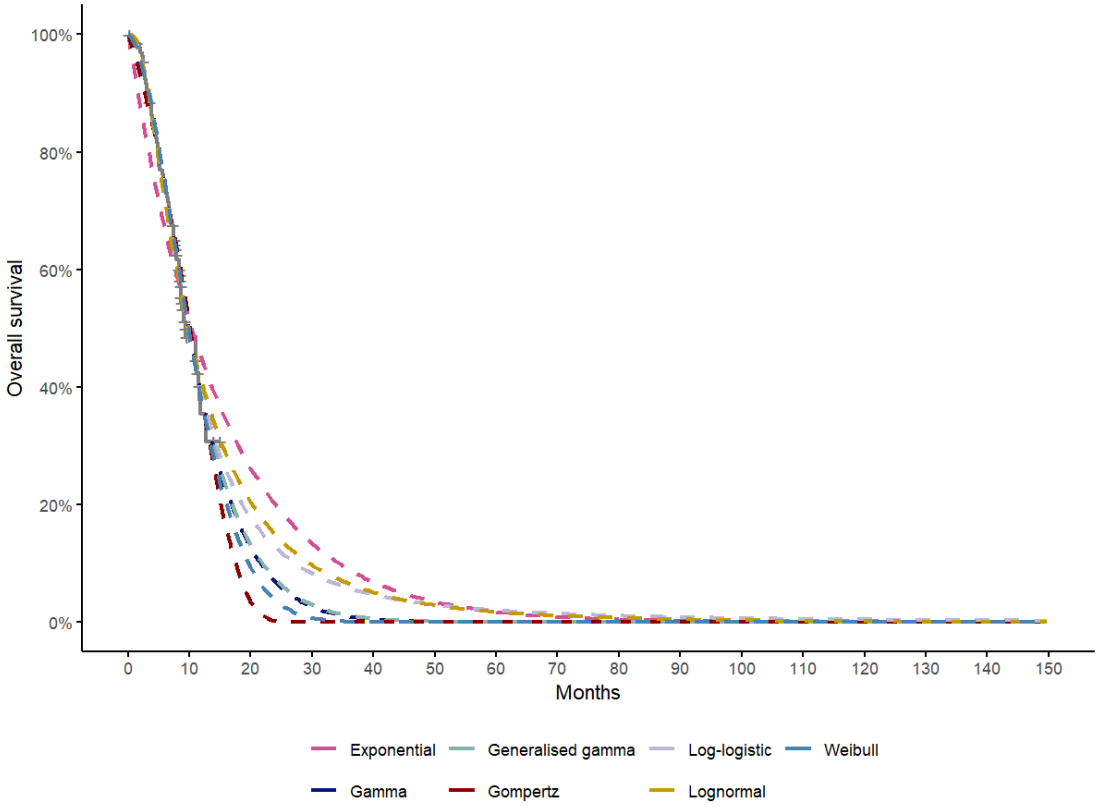

**Supplementary Figure 7** | The reconstructed Kaplan-Meier PFS curve of sacituzumab govitecan in the ASCENT trial.



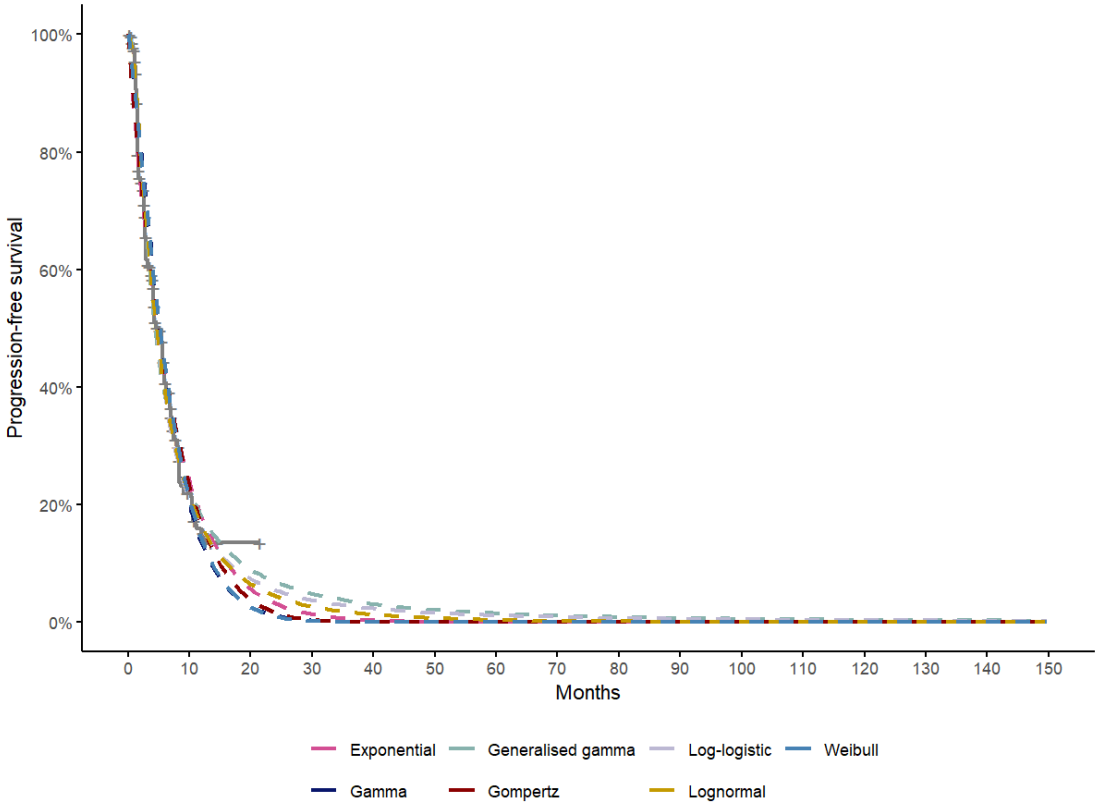

**Supplementary Figure 8** | The reconstructed Kaplan-Meier OS curve of sacituzumab govitecan in the ASCENT trial.



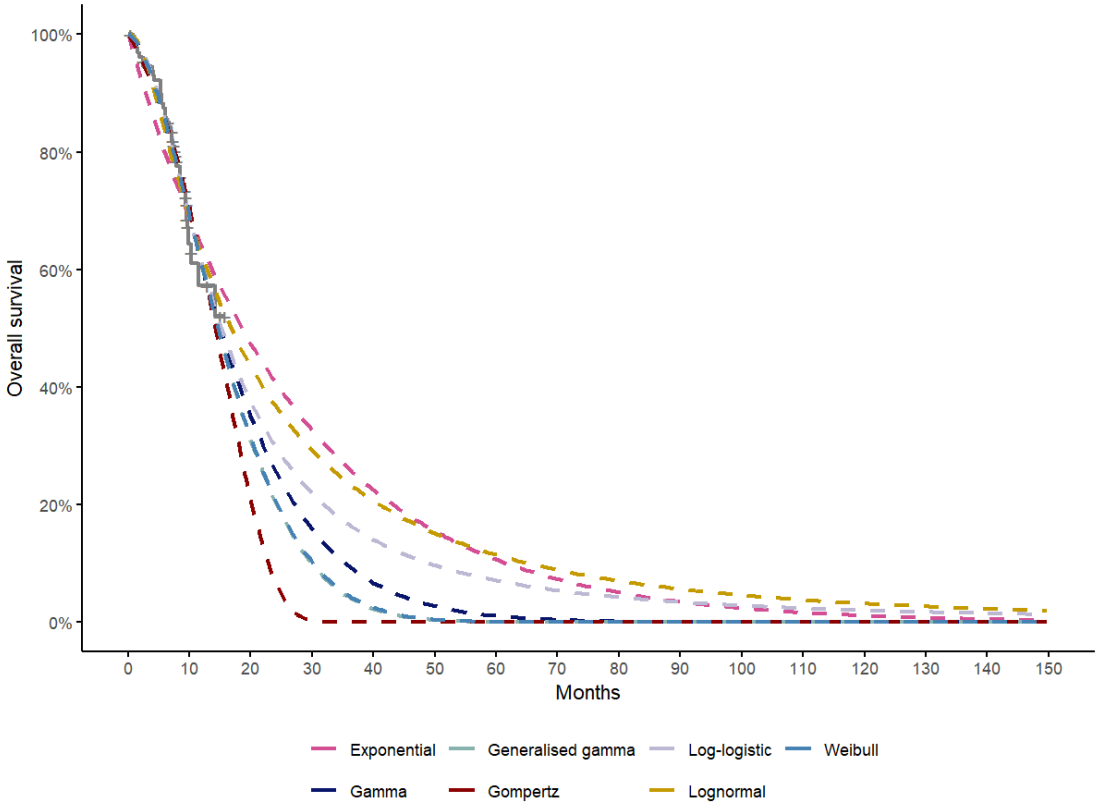

**Supplementary Figure 9** | The reconstructed Kaplan-Meier PFS curve of chemotherapy in the OptiTROP-Breast01 trial.




**Supplementary Figure 10** | The reconstructed Kaplan-Meier OS curve of chemotherapy in the OptiTROP-Breast01 trial.




**Supplementary Figure 11** | The reconstructed Kaplan-Meier PFS curve of sacituzumab tirumotecan in the OptiTROP-Breast01 trial.




**Supplementary Figure 12** | The reconstructed Kaplan-Meier OS curve of sacituzumab tirumotecan in the OptiTROP-Breast01 trial.