

Supplemental Appendix for:
Economic evaluations of breast cancer care in low- and middle-income countries: a scoping review
Parsa Erfani et al.

Appendix I. Search Strategy and Results

Appendix II. Screening Methodology and Data Extraction Tools

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Appendix IV. Characteristics of Studies in Scoping Review - disaggregated by studies that estimated the cost of a single step vs. multiple steps in the breast cancer care pathway

Appendix I. Search Strategy and Results

MEDLINE	1670
Embase	1499
Web of Science	1570
Global Health	813
WHO Global Index Medicus	788
Total	6340
After duplicate removal	3854

MEDLINE (Ovid, 1946 - March 19, 2020) – 1670 Records

(exp Breast Neoplasms/ OR (breast* adj3 (cancer* OR tumor* OR tumour* OR neoplasm* OR adenocarcinoma* OR carcinoma* OR malignan* OR in situ)).ab,ti)

AND

(exp costs and cost analysis/ OR exp quality-adjusted life years/ OR exp global burden of disease/ OR economics.fs OR (cost? OR costing OR expenditure* OR economic* OR expense* OR qaly? OR daly?).ab,ti OR (burden adj2 disease*).ab,ti)

AND

(exp developing countries/ OR ((developing OR less developed OR third world OR under developed OR middle income OR low income OR underserved OR under served OR deprived OR poor*) adj1 (count* OR nation* OR state* OR population* OR area* OR economy OR economies)).ab,ti OR (Imic OR Imics).ab,ti OR (resource* adj2 (poor OR limiting OR limited OR low OR constrain*)).ab,ti OR exp africa/ OR exp asia/ OR exp south america/ OR exp latin america/ OR exp central america/ OR (africa OR asia OR south america* OR latin america* OR central america* OR afghanistan* OR albania* OR algeria* OR angola* OR argentina* OR armenia* OR azerbaijan* OR bangladesh* OR belarus* OR belize* OR benin* OR bhutan* OR bolivia* OR bosnia* OR botswana* OR brazil* OR bulgaria* OR burkin* OR burundi* OR cabo verd* OR cape verd* OR cambodia* OR cameroon* OR central african republic OR chad* OR china* OR colombia* OR comoros* OR comorian* OR congo* OR costa rica* OR cote divoire* OR ivoirien* OR cuba* OR democratic peoples republic of korea OR djibouti* OR dominica* OR ecuador* OR egypt* OR el salvador* OR salvadoran* OR eritrea* OR eswatini* OR ethiopia* OR fiji* OR gabon* OR gambia* OR gaza OR georgia* OR ghana* OR grenada* OR grenadines* OR guatemala* OR guinea* OR guyana* OR haiti* OR herzegovina* OR hondura* OR india* OR indonesia* OR iran* OR iraq* OR ivory coast* OR jamaica* OR jordan* OR kazakh* OR kenya* OR kiribati* OR kosovo* OR kyrgyz* OR lao OR laoatian* OR lebanon* OR lebanese OR lesotho* OR liberia* OR libya* OR macedonia* OR madagascar* OR malawi* OR malaysia* OR maldiv* OR mali OR malian* OR marshall island* OR mauritania* OR mauriti* OR mexico OR mexican* OR micronesia* OR moldova* OR mongolia* OR montenegr* OR morocc* OR mozambi* OR myanmar* OR namibia* OR nauru* OR nepal* OR nicaragua* OR niger* OR pakistan* OR papua* OR paraguay* OR peru* OR philippines* OR philippino* OR principe OR romania* OR russia* OR rwanda* OR saint lucia* OR saint vincent* OR samoa* OR samoa* OR sao tome* OR senegal* OR serbia* OR sierra leone* OR solomon island* OR somalia* OR south africa* OR south korea* OR sri lanka* OR st lucia* OR st vincent* OR sudan* OR surinam* OR syria* OR tajik* OR tanzania* OR thai* OR timor* OR togo* OR tonga* OR tunisia* OR turk* OR tuvalu* OR uganda* OR ukraine* OR uzbek* OR vanuatu* OR venezuela* OR vietnam* OR west bank* OR yemen* OR zambia* OR zimbabwe*).ab,ti)

Embase (Elsevier, 1974 – March 19, 2020) – 1449 Records

('breast cancer'/exp OR (breast* NEAR/3 (cancer* OR tumor* OR tumour* OR neoplasm* OR adenocarcinoma* OR carcinoma* OR malignan* OR 'in situ'))):ab,ti)

AND

('cost benefit analysis'/exp OR 'cost'/de OR 'health care cost'/exp OR quality-adjusted life years OR (cost\$ OR costing OR expenditure* OR economic* OR expense* OR qaly\$ OR daly?):ab,ti OR (burden NEAR/2 disease*):ab,ti)

AND

('developing country'/exp OR ((developing OR 'less developed' OR 'third world' OR 'under developed' OR 'middle income' OR 'low income' OR underserved OR 'under served' OR deprived OR poor*) NEAR/1

(count* OR nation* OR state* OR population* OR area*)):ab,ti OR Imic:ab,ti OR Imics:ab,ti OR (resource* NEAR/2 (poor OR limiting OR limited OR low OR constrain*)):ab,ti OR africa/exp OR asia/exp OR 'south and central america'/exp OR (africa OR asia OR 'south america*' OR 'latin america*' OR 'central america*' OR afghanistan* OR albania* OR algeria* OR angola* OR argentina* OR armenia* OR azerbaijan* OR bangladesh* OR belarus* OR belize* OR benin* OR bhutan* OR bolivia* OR bosnia* OR botswana* OR brazil* OR bulgaria* OR burkin* OR burundi* OR 'cabo verd*' OR 'cape verd*' OR cambodia* OR cameroon* OR 'central african republic' OR chad* OR china* OR colombia* OR comoros* OR comorian* OR congo* OR 'costa rica*' OR 'cote d ivoire*' OR ivorian* OR cuba* OR 'democratic peoples republic of korea' OR djibouti* OR dominica* OR ecuador* OR egypt* OR 'el salvador*' OR salvadoran* OR eritrea* OR eswatini* OR ethiopia* OR fiji* OR gabon* OR gambia* OR gaza OR georgia* OR ghana* OR grenada* OR grenadines* OR guatemala* OR guinea* OR guyana* OR haiti* OR herzegovina* OR hondura* OR india* OR indonesia* OR iran* OR iraq* OR 'ivory coast*' OR jamaica* OR jordan* OR kazakh* OR kenya* OR kiribati* OR kosovo* OR kyrgyz* OR lao OR laoatian* OR lebanon* OR lebanese OR lesotho* OR liberia* OR libya* OR macedonia* OR madagascar* OR malawi* OR malaysia* OR maldiv* OR mali OR malian* OR 'marshall island*' OR mauritania* OR mauriti* OR mexico OR mexican* OR micronesia* OR moldova* OR mongolia* OR montenegr* OR morocc* OR mozambi* OR myanmar* OR namibia* OR nauru* OR nepal* OR nicaragua* OR niger* OR pakistan* OR papua* OR paraguay* OR peru* OR philippines* OR philippino* OR principe OR romania* OR russia* OR rwnda* OR 'saint lucia*' OR 'saint vincent*' OR samoa* OR 'sao tome*' OR senegal* OR serbia* OR 'sierra leone*' OR 'solomon island*' OR somalia* OR 'south africa*' OR 'south korea*' OR 'sri lanka*' OR 'st lucia*' OR 'st vincent*' OR sudan* OR surinam* OR syria* OR tajik* OR tanzania* OR thai* OR timor* OR togo* OR tonga* OR tunisia* OR turkey* OR turk* OR tuvalu* OR uganda* OR ukraine* OR uzbek* OR vanuatu* OR venezuela* OR vietnam* OR 'west bank*' OR yemen* OR zambia* OR zimbabw*):ab,ti)

NOT

'conference abstract'/it

Web of Science (Clarivate Analytics, all years – March 19, 2020) - 1570 Records

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED

Exclude meeting abstracts

TS=("breast*" NEAR/3 ("cancer*" OR "tumor*" OR "tumour*" OR "neoplasm*" OR "adenocarcinoma*" OR "carcinoma*" OR "malignan*" OR "in situ"))

AND

TS=("cost*" OR "costing" OR "expenditure*" OR "economic*" OR "expense*" OR "qaly*" OR "daly*" OR ("burden" NEAR/2 "disease*"))

AND

TS=((("developing" OR "less developed" OR "third world" OR "under developed" OR "middle income" OR "low income" OR "underserved" OR "under served" OR "deprived" OR "poor*") NEAR/1 ("count*" OR "nation*" OR "state*" OR "population*" OR "area*")) OR "Imic" OR "Imics" OR "(resource* NEAR/2 (poor* OR "limiting" OR "limited" OR "low" OR "constrain*")) OR "africa" OR "asia" OR "south america*" OR "latin america*" OR "central america*" OR "afghanistan*" OR "albania*" OR "algeria*" OR "angola*" OR "argentina*" OR "armenia*" OR "azerbaijan*" OR "bangladesh*" OR "belarus*" OR "belize*" OR "benin*" OR "bhutan*" OR "bolivia*" OR "bosnia*" OR "botswana*" OR "brazil*" OR "bulgaria*" OR "burkin*" OR "burundi*" OR "cabo verd*" OR "cape verd*" OR "cambodia*" OR "cameroon*" OR "central african republic" OR "chad*" OR "china*" OR "colombia*" OR "comoros*" OR "comorian*" OR "congo*" OR "costa rica*" OR "cote d ivoire*" OR "ivorian*" OR "cuba*" OR "democratic peoples republic of korea" OR "djibouti*" OR "dominica*" OR "ecuador*" OR "egypt*" OR "el salvador*" OR "salvadoran*" OR "eritrea*" OR "eswatini*" OR "ethiopia*" OR "fiji*" OR "gabon*" OR "gambia*" OR "gaza" OR "georgia*" OR "ghana*" OR "grenada*" OR "grenadines*" OR "guatemala*" OR "guinea*" OR "guyana*" OR "haiti*" OR "herzegovina*" OR "hondura*" OR "india*" OR "indonesia*" OR "iran*" OR "iraq*" OR "ivory coast*" OR "jamaica*" OR "jordan*" OR "kazakh*" OR "kenya*" OR "kiribati*" OR "kosovo*" OR "kyrgyz*" OR "lao" OR "laoatian*" OR "lebanon*" OR "lebanese" OR "lesotho*" OR "liberia*" OR "libya*" OR "macedonia*" OR "madagascar*" OR "malawi*" OR "malaysia*" OR "maldiv*" OR "mali" OR "malian*" OR "marshall island*" OR "mauritania*" OR "mauriti*" OR "mexico" OR "mexican*" OR "micronesia*" OR "moldova*" OR "mongolia*" OR "montenegr*" OR "morocc*" OR "mozambi*" OR "myanmar*" OR "namibia*" OR

"nauru*" OR "nepal*" OR "nicaragua*" OR "niger*" OR "pakistan*" OR "papua*" OR "paraguay*" OR "peru*" OR "philippines*" OR "philippino*" OR "principe" OR "romania*" OR "russia*" OR "rwanda*" OR "saint lucia*" OR "saint vincent*" OR "samoa*" OR "samoa*" OR "sao tome*" OR "senegal*" OR "serbia*" OR "sierra leone*" OR "solomon island*" OR "somalia*" OR "south africa*" OR "south korea*" OR "sri lanka*" OR "st lucia*" OR "st vincent*" OR "sudan*" OR "surinam*" OR "syria*" OR "tajik*" OR "tanzania*" OR "thai*" OR "timor*" OR "togo*" OR "tonga*" OR "tunisia*" OR "turkey*" OR "turk*" OR "tuvalu*" OR "uganda*" OR "ukraine*" OR "uzbek*" OR "vanuatu*" OR "venezuela*" OR "vietnam*" OR "west bank*" OR "yemen*" OR "zambia*" OR "zimbabw*")

Global Health (EBSCO, all years – March 19, 2020) – 813 Records

(DE ("breast cancer") OR TI (breast* N3 (cancer* OR tumor* OR tumour* OR neoplasm* OR adenocarcinoma* OR carcinoma* OR malignan* OR "in situ")) OR AB (breast* N3 (cancer* OR tumor* OR tumour* OR neoplasm* OR adenocarcinoma* OR carcinoma* OR malignan* OR "in situ"))

AND

(DE ("economic analysis" OR "cost analysis" OR "cost benefit analysis" OR "cost effectiveness analysis" OR "valuation" OR "economics") OR TI (cost* OR costing OR expenditure* OR economic* OR expense* OR qaly* OR daly* OR (burden N2 disease*)) OR AB (cost* OR costing OR expenditure* OR economic* OR expense* OR qaly* OR daly* OR (burden N2 disease*)))

AND

(DE ("Developing Countries" OR "Least Developed Countries" OR "Asia" OR "Caribbean" OR "Central America" OR "Latin America" OR "Africa" OR "Oceania" OR "South America" OR "Argentina" OR "Aruba" OR "Bahamas" OR "Bahrain" OR "Barbados" OR "Belize" OR "Bermuda" OR "Bolivia" OR "Bonaire" OR "Brazil" OR "British Virgin Islands" OR "Brunei Darussalam" OR "Cameroon" OR "Cayman Islands" OR "Chile" OR "China" OR "Christmas Island" OR "Cocos Islands" OR "Colombia" OR "Congo" OR "Cook Islands" OR "Costa Rica" OR "Cote d'Ivoire" OR "Crozet Islands" OR "Cuba" OR "Curacao" OR "Cyprus" OR "Dominica" OR "Dominican Republic" OR "Easter Island" OR "Ecuador" OR "Egypt" OR "El Salvador" OR "Falkland Islands" OR "Federated States of Micronesia" OR "Fiji" OR "French Guiana" OR "Gabon" OR "Gambier Islands" OR "Ghana" OR "Grenada" OR "Guadeloupe" OR "Guam" OR "Guatemala" OR "Guyana" OR "Honduras" OR "India" OR "Indonesia" OR "Iran" OR "Iraq" OR "Jamaica" OR "Jordan" OR "Kenya" OR "Kerguelen Archipelago" OR "Korea Democratic People's Republic" OR "Korea Republic" OR "Kuwait" OR "Least Developed Countries" OR "Lebanon" OR "Libya" OR "Malaysia" OR "Marquesas Islands" OR "Marshall Islands" OR "Martinique" OR "Mauritius" OR "Mayotte" OR "Mexico" OR "Midway Islands" OR "Mongolia" OR "Montserrat" OR "Morocco" OR "Namibia" OR "New Britain" OR "New Caledonia" OR "New Ireland" OR "Nicaragua" OR "Nigeria" OR "Niue" OR "Northern Mariana Islands" OR "Oman" OR "Pakistan" OR "Panama" OR "Papua New Guinea" OR "Paraguay" OR "Peru" OR "Philippines" OR "Algeria" OR "Puerto Rico" OR "Qatar" OR "Reunion" OR "Saba" OR "Saint Helena" OR "Saint Kitts and Nevis" OR "Saint Lucia" OR "Saint Vincent and the Grenadines" OR "Saudi Arabia" OR "Senegal" OR "Seychelles" OR "Singapore" OR "South Africa" OR "Sri Lanka" OR "Suriname" OR "Swaziland" OR "Syria" OR "Tahiti" OR "Thailand" OR "Tokelau" OR "Tonga" OR "Angola" OR "Anguilla Island" OR "Trinidad and Tobago" OR "Tuamotu" OR "Tubuai Islands" OR "Tunisia" OR "Turkey" OR "Turks and Caicos Islands" OR "United Arab Emirates" OR "Uruguay" OR "Venezuela" OR "Vietnam" OR "Wallis and Futuna" OR "Western Sahara" OR "Zimbabwe" OR "Antigua and Barbuda" OR "Bangladesh" OR "Benin" OR "Bhutan" OR "Botswana" OR "Burkina Faso" OR "Burundi" OR "Cambodia" OR "Cape Verde" OR "Central African Republic" OR "Chad" OR "Comoros" OR "Congo Democratic Republic" OR "Djibouti" OR "Equatorial Guinea" OR "Eritrea" OR "Ethiopia" OR "Gambia" OR "Guinea" OR "Guinea-Bissau" OR "Haiti" OR "Kiribati" OR "Laos" OR "Lesotho" OR "Liberia" OR "Madagascar" OR "Malawi" OR "Maldives" OR "Mali" OR "Mauritania" OR "Mozambique" OR "Myanmar" OR "Nepal" OR "Afghanistan" OR "Niger" OR "Rwanda" OR "Samoa" OR "Sao Tome and Principe" OR "American Samoa" OR "Sierra Leone" OR "Solomon Islands" OR "Somalia" OR "Sudan" OR "Tanzania" OR "Togo" OR "Tuvalu" OR "Uganda" OR "Vanuatu" OR "Yemen" OR "Zambia")

OR

TI ((developing OR "less developed" OR "third world" OR "under developed" OR "middle income" OR "low income" OR underserved OR "under served" OR deprived OR poor*) N1 (count* OR nation* OR state* OR population* OR area*)) OR Imic OR Imics OR (resource* N2 (poor OR limiting OR limited OR low OR constrain*)) OR africa OR asia OR "south america*" OR "latin america*" OR "central america*" OR afghanistan* OR albania* OR algeria* OR angola* OR argentina* OR armenia* OR azerbaijan* OR

bangladesh* OR belarus* OR belize* OR benin* OR bhutan* OR bolivia* OR bosnia* OR botswana* OR brazil* OR bulgaria* OR burkin* OR burundi* OR "cabo verd*" OR "cape verd*" OR cambodia* OR cameroon* OR "central african republic" OR chad* OR china* OR colombia* OR comoros* OR comorian* OR congo* OR "costa rica*" OR "cote d ivoire*" OR ivorian* OR cuba* OR "democratic peoples republic of korea" OR djibouti* OR dominica* OR ecuador* OR egypt* OR "el salvador*" OR salvadoran* OR eritrea* OR eswatini* OR ethiopia* OR fiji* OR gabon* OR gambia* OR gaza OR georgia* OR ghana* OR grenada* OR grenadines* OR guatemala* OR guinea* OR guyana* OR haiti* OR herzegovina* OR hondura* OR india* OR indonesia* OR iran* OR iraq* OR "ivory coast*" OR jamaica* OR jordan* OR kazakh* OR kenya* OR kiribati* OR kosovo* OR kyrgyz* OR lao OR laoatian* OR lebanon* OR lebanese OR lesotho* OR liberia* OR libya* OR macedonia* OR madagascar* OR malawi* OR malaysia* OR maldiv* OR mali OR malian* OR "marshall island*" OR mauritania* OR mauriti* OR mexico OR mexican* OR micronesia* OR moldova* OR mongolia* OR montenegr* OR morocc* OR mozambi* OR myanmar* OR namibia* OR nauru* OR nepal* OR nicaragua* OR niger* OR pakistan* OR papua* OR paraguay* OR peru* OR philippines* OR philippino* OR principe OR romania* OR russia* OR rwnda* OR "saint lucia*" OR "saint vincent*" OR samoa* OR samoa* OR "sao tome*" OR senegal* OR serbia* OR "sierra leone*" OR "solomon island*" OR somalia* OR "south africa*" OR "south korea*" OR "sri lanka*" OR "st lucia*" OR "st vincent*" OR sudan* OR surinam* OR syria* OR tajik* OR tanzania* OR thai* OR timor* OR togo* OR tonga* OR tunisia* OR turkey* OR turk* OR tuvalu* OR uganda* OR ukraine* OR uzbek* OR vanuatu* OR venezuela* OR vietnam* OR "west bank*" OR yemen* OR zambia* OR zimbabw*) OR

AB ((developing OR "less developed" OR "third world" OR "under developed" OR "middle income" OR "low income" OR underserved OR "under served" OR deprived OR poor*) N1 (count* OR nation* OR state* OR population* OR area*)) OR lmic OR lmic OR (resource* N2 (poor OR limiting OR limited OR low OR constrain*)) OR africa OR asia OR "south america*" OR "latin america*" OR "central america*" OR afghanistan* OR albania* OR algeria* OR angola* OR argentina* OR armenia* OR azerbaijan* OR bangladesh* OR belarus* OR belize* OR benin* OR bhutan* OR bolivia* OR bosnia* OR botswana* OR brazil* OR bulgaria* OR burkin* OR burundi* OR "cabo verd*" OR "cape verd*" OR cambodia* OR cameroon* OR "central african republic" OR chad* OR china* OR colombia* OR comoros* OR comorian* OR congo* OR "costa rica*" OR "cote d ivoire*" OR ivorian* OR cuba* OR "democratic peoples republic of korea" OR djibouti* OR dominica* OR ecuador* OR egypt* OR "el salvador*" OR salvadoran* OR eritrea* OR eswatini* OR ethiopia* OR fiji* OR gabon* OR gambia* OR gaza OR georgia* OR ghana* OR grenada* OR grenadines* OR guatemala* OR guinea* OR guyana* OR haiti* OR herzegovina* OR hondura* OR india* OR indonesia* OR iran* OR iraq* OR "ivory coast*" OR jamaica* OR jordan* OR kazakh* OR kenya* OR kiribati* OR kosovo* OR kyrgyz* OR lao OR laoatian* OR lebanon* OR lebanese OR lesotho* OR liberia* OR libya* OR macedonia* OR madagascar* OR malawi* OR malaysia* OR maldiv* OR mali OR malian* OR "marshall island*" OR mauritania* OR mauriti* OR mexico OR mexican* OR micronesia* OR moldova* OR mongolia* OR montenegr* OR morocc* OR mozambi* OR myanmar* OR namibia* OR nauru* OR nepal* OR nicaragua* OR niger* OR pakistan* OR papua* OR paraguay* OR peru* OR philippines* OR philippino* OR principe OR romania* OR russia* OR rwnda* OR "saint lucia*" OR "saint vincent*" OR samoa* OR samoa* OR "sao tome*" OR senegal* OR serbia* OR "sierra leone*" OR "solomon island*" OR somalia* OR "south africa*" OR "south korea*" OR "sri lanka*" OR "st lucia*" OR "st vincent*" OR sudan* OR surinam* OR syria* OR tajik* OR tanzania* OR thai* OR timor* OR togo* OR tonga* OR tunisia* OR turkey* OR turk* OR tuvalu* OR uganda* OR ukraine* OR uzbek* OR vanuatu* OR venezuela* OR vietnam* OR "west bank*" OR yemen* OR zambia* OR zimbabw*))

WHO Regional Databases (all years – March 19, 2020) – 788 Records

("breast cancer*" OR "breast neoplasm*" OR "breast tumor*" OR "breast tumour*" OR "breast carcinoma*" OR "carcinoma of the breast" OR "carcinoma in situ")

AND

(cost OR costs OR costing OR expenditure* OR economic* OR expense* OR qaly* OR daly* OR "burden of disease" OR "disease burden")

Appendix II. Data Extraction Tools with Variables Definitions

a. Screening Methodology

Following a pilot test, titles and abstracts were screened by two independent reviewers (P.E. and K.B.) for assessment against the inclusion criteria (primary screen). Non-English abstracts were reviewed during the primary screen using automated computerized translation of their titles and abstracts.[28] Relevant papers were retrieved and the two reviewers assessed the full texts against the inclusion and exclusion criteria (secondary screen). If an article's full text was not available, the primary author was contacted. Reasons for exclusion of all excluded full-text papers were recorded and reported. Non-English full-text articles were excluded in the secondary screen. The number of studies excluded in the secondary screen due to unavailability of English full text was used to assess this review's language bias. Disagreements at each stage of the screening process were resolved through discussion between the primary reviewers, or adjudication by third reviewer (D.F.). Cohen's Kappa scores were calculated for the primary and secondary screen.

b. Data Extraction Variables

Study Name:

Author (Last name et al.):

Publication Year:

Country:

World Region:

- Latin America & Caribbean
- Sub-Saharan Africa
- Middle East & North Africa
- Europe & Central Asia
- South Asia
- East Asia & Pacific

Economic Status:

- Upper Middle Income
- Lower Middle Income
- Lower Income

Type of Economic Evaluation:

- Cost Analysis
- Cost of Illness
- Cost-Effectiveness Analysis
- Cost-Utility Analysis
- Cost-Minimization Analysis

Study Design:

- Observational
- Model-Based
- Experimental
- Other

Study Perspective:

- Health care provider
- Health care payer
- Health care (not specified)
- Patient
- Societal

Population: description of number of patients, inclusion/exclusion criteria

Breast Cancer Stage:

- Early (stage I and II)
- Advanced (stage III and IV)
- All (early and advanced)
- Unknown (not stated)
- Other (e.g. operable, node-positive)

Breast Cancer Types:

- Hormone receptor-positive only
- HER2-positive only

Time Horizon: time over which the costs and/or effects are measured

Interventions Compared

Objective

Conclusion

c. *Extended Data Extraction Variables*

Base Year of Cost Data:

Costing Approach:

- Micro – cost of each input is estimated separately (e.g. ingredients approach)
- Gross – total cost is estimated across all inputs
- Micro and Gross

Sources for Cost and Resource Estimation:

- Patients
- Medical Records
- Hospital Finance/Administrative Data
- Government Data (e.g. public tariffs)
- Claims/Insurance Data (e.g. private tariffs)
- Literature
- Expert Opinion

Costs Disaggregated by Cost Inputs:

- Yes
- No
- n/a – not applicable for studies that utilized gross costing

Cost Disaggregated by Stage:

- Yes
- No

Currency Year Reported:

- Yes
- No

Cost Estimation Uncertainty Reported:

- Yes – uncertainty include confidence intervals, standard deviation, range etc.
- No

Sensitivity Analysis for Cost Estimation:

- Yes
- No

Costs Discounted:

- Yes
- No
- n/a – not applicable for studies that do not collect costs beyond one year

Discount Rates (if costs discounted):

Costs Adjusted for Inflation:

- Yes
- No
- n/a – not applicable for studies that utilize costing data from only one year

Cost Categories Included (select all that apply)

- Direct medical – medical costs (e.g. chemotherapy, physician visit) during care
- Direct non-medical – non-medical costs (e.g. food, transportation) during care
- Indirect – costs related to lost wages during care, morbidity costs, mortality costs

Inputs for Direct Medical Costs, if included (select all that apply):

- Medical visits
- Diagnostic studies/pathology
- Tumor-directed medications
- Supportive medications
- Surgery
- Radiotherapy
- Hospitalization
- Imaging
- Lab tests/Blood Services
- Palliative Care
- Training

- Administrative/Overhead (e.g. program costs)
- Other (e.g. unspecified medical cost, medical devices)

Inputs for Direct Non-Medical, if included (select all that apply):

- Food
- Transportation/Travel
- Patient Accommodation
- Food, transportation, or accommodation for companion
- Other (e.g. home help, child tutoring)

Inputs for Indirect Costs (select all that apply):

- Lost wages from cancer care
- Lost wages from disability/premature mortality
- Lost wages of companion

Currency of Cost Outcome (report USD if available):

Currency Year of Cost Outcome:

Currency Conversion (if cost outcome not in local currency):

c) *Quality Assessment Drummond et al. Checklist*²²:

0 (not considered), 1 (partially considered), 2 (fully considered), or n/a (not applicable)

Study Design (14 points):

- (1) The research question is stated
- (2) The economic importance of the research question is stated
- (3) The viewpoint(s) of the analysis are clearly stated and justified
- (4) The rationale for choosing the alternative programmes or interventions compared is stated
- (5) The alternatives being compared are clearly described
- (6) The form of economic evaluation used is stated
- (7) The choice of form of economic evaluation is justified in relation to the questions addressed

Cost/Outcome Estimation (24 points):

- (8) The source(s) of effectiveness estimates used are stated
- (9) Details of the design and results of effectiveness study are given (if based on a single study)
- (10) Details of the method of synthesis or meta-analysis of estimates are given (if based on an overview of a number of effectiveness studies)
- (11) The primary outcome measure(s) for the economic evaluation are clearly stated
- (12) Methods to value health states and other benefits are stated
- (13) Details of the subjects from whom valuations were obtained are given
- (14) Productivity changes (if included) are reported separately
- (15) The relevance of productivity changes to the study question is discussed
- (16) Quantities of resources are reported separately from their unit costs
- (17) Methods for the estimation of quantities and unit costs are described
- (18) Currency and price data are recorded
- (19) Details of currency of price adjustments for inflation or currency conversion are given

Analysis and Interpretation (28 points):

- (20) Details of any model used are given
- (21) The choice of model used and the key parameters on which it is based are justified
- (22) Time horizon of costs and benefits is stated
- (23) The discount rate(s) is stated
- (24) The choice of rate(s) is justified (if discounted)
- (25) An explanation is given if costs or benefits are not discounted
- (26) Details of statistical tests and confidence intervals are given for stochastic data
- (27) The approach to sensitivity analysis is given and justified
- (30) Relevant alternatives are compared
- (31) Incremental analysis is reported
- (32) Major outcomes are presented in a disaggregated as well as aggregated form
- (33) The answer to the study question is given
- (34) Conclusions follow from the data reported
- (35) Conclusions are accompanied by the appropriate caveats

Appendix IV. Characteristics of Studies in Scoping Review - disaggregated by studies that estimated the cost of a single step vs. multiple steps in the breast cancer care pathway

	Studies Estimating Cost of a Singular Step in the BC Care Pathway (N = 58)	Studies Estimating Cost of Multiple Steps in the BC Care Pathway (N = 33)	All Studies (N=91)
Characteristics	N (%)	N (%)	N (%)
Publication Year (1995-2020)			
Before 2013	17 (29%)	8 (24%)	25 (27%)
2013-2020	41 (71%)	25 (76%)	66 (73%)
Number of Countries	30	17	38
World Region			
Latin America & Caribbean	15 (26%)	11 (33%)	26 (29%)
Sub-Saharan Africa	5 (9%)	3 (9%)	8 (9%)
Middle East & North Africa	12 (21%)	7 (21%)	19 (21%)
Europe & Central Asia	3 (5%)	2 (6%)	5 (5%)
South Asia	2 (3%)	6 (18%)	8 (9%)
East Asia & Pacific	21 (36%)	4 (12%)	25 (27%)
Economic Status*			
Upper Middle Income	50 (86%)	20 (61%)	70 (77%)
Lower Middle Income	10 (17%)	12 (36%)	22 (24%)
Low Income	1 (2%)	1 (3%)	2 (2%)
Type of Economic Evaluation			
Cost Analysis/Cost of Illness	17 (29%)	27 (82%)	44 (48%)
Cost-Effectiveness/Utility Analysis	39 (67%)	6 (18%)	45 (49%)
Cost Minimization Analysis	2 (3%)	0 (0%)	2 (2%)
Study Design			
Observational	17 (29%)	24 (73%)	41 (45%)
Model-Based	36 (62%)	6 (18%)	42 (46%)
Experimental	2 (3%)	0 (0%)	2 (2%)
Other	3 (5%)	3 (9%)	6 (7%)
BC Stages			
Early	24 (41%)	2 (6%)	26 (29%)
Advanced	15 (26%)	0 (0%)	15 (16%)
All	13 (22%)	31 (94%)	44 (48%)
Unknown	1 (2%)	0 (0%)	1 (1%)
Other (e.g. operable, node +)	5 (9%)	0 (0%)	5 (5%)
BC Types			
Hormone receptor + only	12 (21%)	1 (3%)	13 (14%)
HER2 + only	17 (29%)	2 (6%)	19 (21%)

Study Perspective*			
Health care provider	4 (7%)	2 (6%)	6 (7%)
Health care payer	14 (24%)	6 (18%)	20 (22%)
Health care (not specified)	19 (33%)	10 (30%)	29 (32%)
Patient	4 (7%)	7 (21%)	11 (12%)
Societal	15 (26%)	8 (24%)	23 (25%)
Unknown	8 (14%)	2 (6%)	10 (11%)
Time Horizon			
<1 year	3 (5%)	2 (6%)	5 (5%)
1-9 years	14 (24%)	11 (33%)	25 (27%)
10-19 years	5 (9%)	1 (3%)	6 (7%)
20-39 years	6 (10%)	0 (0%)	6 (7%)
Lifetime or >=40	14 (24%)	5 (15%)	19 (21%)
Unknown	16 (28%)	14 (42%)	30 (33%)

*Categories are not mutually exclusive, and percentages may sum up to over 100%

BC – breast cancer; N – number; HER2 – human epidermal growth factor receptor 2