

**Table 1: Systematic literature research: List of identified decision aids**

Authors/Developers [Reference]	Title of the decision aid	Year of publication	Country	Target group addressed	Cancer risk addressed	Basic structural elements	Format								
Metcalfe K, Narod S, Poll A, O'Connor A. The Centre for Research in Women's Health, Toronto. University of Ottawa. [57]	What are my options for Breast Cancer Prevention? Facts and Decision Aid for Women with a <i>BRCA1</i> or <i>BRCA2</i> mutation.	2006	Canada	Women with <i>BRCA1/2</i> mutations; • No differentiation between <i>BRCA1</i> and <i>BRCA2</i> mutation. • Addresses not affected by cancer (previvors)	Breast cancer risk	<table border="1"> <tr> <td colspan="2">Target group, target decision</td> </tr> <tr> <td>Medical information</td> <td> <ul style="list-style-type: none"> <li>• Risks due to <i>BRCA1/2</i> mutation</li> <li>• Average morbidity rates for BC/OC</li> <li>• Preventive options for BC</li> <li>• Outcomes and consequences of preventive options</li> <li>• Benefits and risks of preventive options</li> <li>• Fact boxes</li> </ul> </td> </tr> <tr> <td>Tools for decision-making support</td> <td> <ul style="list-style-type: none"> <li>• General information (short)</li> <li>• Step-by-step guide</li> <li>• Clarifying values/preferences</li> </ul> </td> </tr> <tr> <td>Other</td> <td> <ul style="list-style-type: none"> <li>• Glossary</li> <li>• Reference list / further literature</li> </ul> </td> </tr> </table>	Target group, target decision		Medical information	<ul style="list-style-type: none"> <li>• Risks due to <i>BRCA1/2</i> mutation</li> <li>• Average morbidity rates for BC/OC</li> <li>• Preventive options for BC</li> <li>• Outcomes and consequences of preventive options</li> <li>• Benefits and risks of preventive options</li> <li>• Fact boxes</li> </ul>	Tools for decision-making support	<ul style="list-style-type: none"> <li>• General information (short)</li> <li>• Step-by-step guide</li> <li>• Clarifying values/preferences</li> </ul>	Other	<ul style="list-style-type: none"> <li>• Glossary</li> <li>• Reference list / further literature</li> </ul>	Brochure / PDF
Target group, target decision															
Medical information	<ul style="list-style-type: none"> <li>• Risks due to <i>BRCA1/2</i> mutation</li> <li>• Average morbidity rates for BC/OC</li> <li>• Preventive options for BC</li> <li>• Outcomes and consequences of preventive options</li> <li>• Benefits and risks of preventive options</li> <li>• Fact boxes</li> </ul>														
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Other	<ul style="list-style-type: none"> <li>• Glossary</li> <li>• Reference list / further literature</li> </ul>														
Kurian AW, Plevetris S. Stanford University School of Medicine. [58]	Decision tool for women with <i>BRCA</i> Mutations.	2011	USA	Women with <i>BRCA1/2</i> mutations; • Clear differentiation between <i>BRCA1</i> and <i>BRCA2</i> mutation. • Addresses not affected by cancer (previvors).	Breast cancer risk, Ovarian cancer risk	<table border="1"> <tr> <td colspan="2">Target group, target decision</td> </tr> <tr> <td>Medical information</td> <td> <ul style="list-style-type: none"> <li>• Risks due to <i>BRCA1/2</i> mutation</li> <li>• Average morbidity rates for BC/OC</li> <li>• Preventive options</li> <li>• Outcomes and consequences of preventive options</li> </ul> </td> </tr> <tr> <td>Other</td> <td> <ul style="list-style-type: none"> <li>• Glossary</li> <li>• Contact addresses and/or internet links</li> <li>• Reference list/further literature</li> </ul> </td> </tr> </table>	Target group, target decision		Medical information	<ul style="list-style-type: none"> <li>• Risks due to <i>BRCA1/2</i> mutation</li> <li>• Average morbidity rates for BC/OC</li> <li>• Preventive options</li> <li>• Outcomes and consequences of preventive options</li> </ul>	Other	<ul style="list-style-type: none"> <li>• Glossary</li> <li>• Contact addresses and/or internet links</li> <li>• Reference list/further literature</li> </ul>	Online tool for individualisation		
Target group, target decision															
Medical information	<ul style="list-style-type: none"> <li>• Risks due to <i>BRCA1/2</i> mutation</li> <li>• Average morbidity rates for BC/OC</li> <li>• Preventive options</li> <li>• Outcomes and consequences of preventive options</li> </ul>														
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Hereditary Cancer Clinic, Prince of Wales Hospital, Centre for Genetics Education, NSW Health, Royal North Shore Hospital. [64]	Information for women considering preventive mastectomy because of a strong family history of breast cancer.	2012	Australia, New South Wales	Women with a strong family history of breast cancer and • <i>BRCA1/2</i> mutations • Personal history of unilateral breast cancer • Personal history of multiple breast biopsies • Breast cancer anxiety	Breast cancer risk	<table border="1"> <tr> <td colspan="2">Target group, target decision</td> </tr> <tr> <td>Medical information</td> <td> <ul style="list-style-type: none"> <li>• Family history of BC</li> <li>• Risks due to <i>BRCA1/2</i> mutation</li> <li>• Example age-/time-related risk of BC</li> <li>• Preventive options</li> <li>• Outcomes and consequences of preventive options</li> <li>• Benefits and risks of preventive options</li> <li>• Personal stories</li> </ul> </td> </tr> <tr> <td>Tools for decision-making support</td> <td> <ul style="list-style-type: none"> <li>• General information (detailed)</li> <li>• Question list addressing medical information/doctor patient dialogue</li> </ul> </td> </tr> <tr> <td>Other</td> <td> <ul style="list-style-type: none"> <li>• Contact addresses and/or internet links</li> <li>• Reference list/further literature</li> </ul> </td> </tr> </table>	Target group, target decision		Medical information	<ul style="list-style-type: none"> <li>• Family history of BC</li> <li>• Risks due to <i>BRCA1/2</i> mutation</li> <li>• Example age-/time-related risk of BC</li> <li>• Preventive options</li> <li>• Outcomes and consequences of preventive options</li> <li>• Benefits and risks of preventive options</li> <li>• Personal stories</li> </ul>	Tools for decision-making support	<ul style="list-style-type: none"> <li>• General information (detailed)</li> <li>• Question list addressing medical information/doctor patient dialogue</li> </ul>	Other	<ul style="list-style-type: none"> <li>• Contact addresses and/or internet links</li> <li>• Reference list/further literature</li> </ul>	Brochure / PDF
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Authors/Developers [Reference]	Title of the decision aid	Year of publication	Country	Target group addressed	Cancer risk addressed	Basic structural elements	Format	
Healthwise Cancer Clinic. [61]	Breast Cancer: What Should I Do if I'm at High Risk?	2016*	USA	Women at high risk for breast cancer with <ul style="list-style-type: none"> <li>• Family history of breast cancer</li> <li>• <i>BRCA1/2</i> mutations</li> </ul>	Breast cancer risk	Target group, target decision	Online text	
						Medical information		<ul style="list-style-type: none"> <li>• Family history of BC</li> <li>• Risks due to <i>BRCA1/2</i> mutation</li> <li>• Average morbidity rates for BC</li> <li>• Preventive options</li> <li>• Outcomes and consequences of preventive options</li> <li>• Benefits and risks of preventive options</li> <li>• Personal stories</li> <li>• Fact boxes</li> </ul>
						Tools for decision-making support		<ul style="list-style-type: none"> <li>• Clarifying values/preferences</li> </ul>
						Other	<ul style="list-style-type: none"> <li>• Reference list / further literature</li> </ul>	
Mayo Clinic Staff. [59]	Preventive (prophylactic) mastectomy: Surgery to reduce breast cancer risk.	2016*	USA	Women at increased risk for breast cancer with <ul style="list-style-type: none"> <li>• Personal history of unilateral breast cancer</li> <li>• Family history of breast cancer</li> <li>• <i>BRCA1/2</i> mutations</li> <li>• Personal history of LCIS</li> <li>• Personal history of radiotherapy at the age of 10 to 30</li> <li>• Dense breast tissue</li> </ul>	Breast cancer risk	Target group, target decision	Online text on website	
						Medical information		<ul style="list-style-type: none"> <li>• Family history of BC</li> <li>• Preventive options</li> <li>• Benefits and risks of preventive options</li> </ul>
						Other		<ul style="list-style-type: none"> <li>• Reference list / further literature</li> </ul>
Cardiff University. [62, 63]	OVDex. Oophorectomy - Decision Explorer.	2014	UK, Wales	Women at increased risk of ovarian cancer with <ul style="list-style-type: none"> <li>• <i>BRCA1</i> or <i>BRCA2</i> mutations</li> <li>• Being from a Lynch syndrome family</li> <li>• No genetic test</li> <li>• Uninformative genetic test</li> <li>• Negative genetic test</li> </ul>	Ovarian cancer risk	Target group, target decision	Online tool for individualisation	
						Medical information		<ul style="list-style-type: none"> <li>• Family history of OC</li> <li>• Risks due to <i>BRCA1/2</i> mutation</li> <li>• Average morbidity rates for OC</li> <li>• Preventive options</li> <li>• Outcomes and consequences of preventive options</li> <li>• Benefits and risks of preventive options</li> <li>• Hormone replacement therapy to counteract potential undesired effects of risk-reducing bilateral salpingo-oophorectomy</li> </ul>
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Authors/Developers [Reference]	Title of the decision aid	Year of publication	Country	Target group addressed	Cancer risk addressed	Basic structural elements	Format	
Mayo Clinic Staff. [60]	Prophylactic oophorectomy: Preventing cancer by surgically removing your ovaries	2014*	USA	Women at increased risk of ovarian cancer with • <i>BRCA1</i> or <i>BRCA2</i> mutations • Strong family history of breast cancer and ovarian cancer without known genetic alteration • Strong likelihood of gene mutation, but no genetic testing	Ovarian cancer risk	Target group, target decision	Online text	
						Medical information		<ul style="list-style-type: none"> <li>• Family history of OC</li> <li>• Risks due to <i>BRCA1/2</i> mutation</li> <li>• Preventive options</li> <li>• Outcomes and consequences of preventive options</li> <li>• Benefits and risks of preventive options</li> <li>• Hormone replacement therapy to counteract potential undesired effects of risk-reducing bilateral salpingo- oophorectomy</li> </ul>
						Tools for decision- making support		<ul style="list-style-type: none"> <li>• Question list addressing medical information/doctor patient dialogue</li> </ul>
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\* a current version dated 2019 is available

**Table 2: Systematic literature research: Evaluation of the identified decision aids with regard to the given target definitions**

		Requirements of target definitions met?						
Target	Target definition	Metcalfe, 2006 [57]	Kurian, 2011 [58]	Hereditary Cancer Clinic et al, 2012 [64]	Healthwise, 2016 [61]	Mayo Clinic, 2016 [59]	Cardiff University, 2014 [62, 63]	Mayo Clinic, 2014 [60]
Target group	The DA should be designed for female previvors and survivors with pathogenic <i>BRCA1</i> or <i>BRCA2</i> mutations.	partly met	partly met	partly met	partly met	partly met	partly met	partly met
Target decision	The addressed decision situation should be the choice of an individual preventive strategy.	met	met	met	met	met	met	met
Decision-making-related target	The DA should help previvors and survivors make informed decisions and clarify their individual values and preferences.	partly met	partly met <sup>1</sup>	partly met	partly met	partly met <sup>1</sup>	partly met	partly met
Information/content-related target	The DA should address the risks of breast cancer and ovarian cancer and present the respective preventive options, including their consequences. Existing data on lifetime and on age and time-related risks should be taken into account in order to facilitate the women's risk perception within a foreseeable period of time.	partly met	partly met	partly met	partly met	partly met	partly met	partly met
Needs-related target	The DA should fulfil the specific needs of the target group.	met	partly met	partly met	partly met	partly met	partly met	partly met
Evidence-related target	The medical content should be based on the currently applicable German S3 and S2 guidelines <sup>2</sup> and, where necessary, on additional data with a high level of evidence; [preferably data with an expected level of evidence of IIb and higher (e.g. systematic reviews based on RCTs, meta-analyses, RCTs, high quality cohort studies)]	not met <sup>3</sup>	not met <sup>3</sup>	not met <sup>3</sup>	not met <sup>3</sup>	not met <sup>3</sup>	not met <sup>3</sup>	not met <sup>3</sup>

DA: decision aid; <sup>1</sup>DA does not contain any tool for supporting decision making; <sup>2</sup>the German S3 guidelines represent the evidence-based consensus in Germany at the highest quality level of methodological development; <sup>3</sup>none of the DAs used the German S3 guidelines as a basis.