

DEVELOPMENT OF A DECISION AID FOR PATIENTS WITH EXTENSIVE BRAIN METASTASES

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BACKGROUND

Brain Metastases (BrM) occur in approximately 30% of cancer patients and are a major cause of morbidity and mortality. Modern treatment paradigms emphasize a reduction in treatment-related complications and maximize functional preservation and quality of life. Ideally, the management of BrM is informed by the number and size of brain lesions, as well as by molecular features of the primary cancer. Management of BrM involves complex decision making, specifically for patients with extensive (≥5) lesions. Healthcare providers may contemplate the use of both stereotactic treatment and whole-brain radiotherapy, as there is a lack of comprehensive randomized data to dictate care. This leaves room for inconsistency in treatment offered and susceptibility to physician preference, thus warranting an analysis of patient values in decision making.

Research shows that health outcomes and care satisfaction are both improved when patients are involved in decision-making. In assisting patients with choices for BrM treatment, physicians must guide and support patients based on the best data available. However, there does remain disagreement within the neuro-oncology community as to “standard of care”. The final recommendation often does not take into consideration an individual patient’s value system. This gap highlights a need for knowledge translation (KT) strategies to best support BrM patients and the cancer care team in shared-decision making about optimal personalized treatments. Patient decision aids (DA) have been studied as an effective tool to support shared decision making and facilitate patient centered care.



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OBJECTIVE

To develop a DA for patients with extensive (≥5) lesions. It will serve 2 purposes:

- To better inform patient on risk and benefits of stereotactic radiosurgery versus whole brain radiotherapy in the face of multiple metastases
- To assist patient in highlighting their own values leading to more optimal shared decision-making

STUDY DESIGN

- 3 phases:
- Prototype DA Design
 - DA Feedback
 - Data Analysis

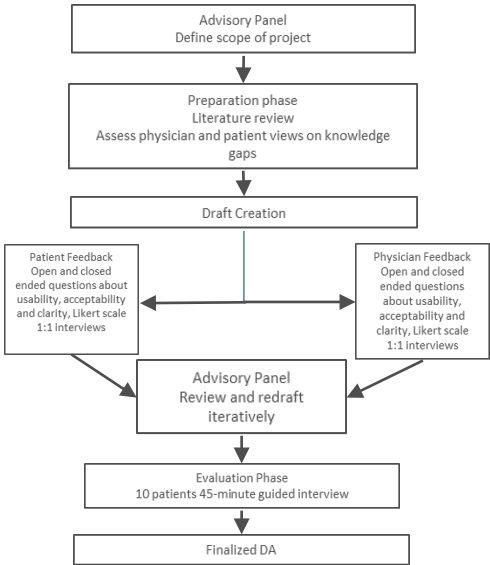


Figure 1: Decision Aid Development Flow Design

RESULTS

Table 1 Comments on sample DA by Draft Round

Round 1	Patients	Physicians	Changes
General	Really good information	Good starting point however wordy for patients and flow is challenging	Word document DA developed
Acceptability	N/A	Not enough information on targeted therapy and provided numerical data on outcomes	Section added on systemic treatment in the context of management of brain metastases as well addition of local control data
Comprehensibility	Some information was “over our head”	N/A	Reworked language to be more simple
Usability	Hard to read through when information for each different treatment is presented one after another	Should be an informative read for patients and the caregivers. Think about when and how it will be implemented clinically	Relevant questions with statistics presented in table format where patients can more easily compare answers for different modalities
Round 2	Patients	Physicians	Changes
General	Easy to read and very informative	Improved flow and ease of knowledge translation	DA developed into PowerPoint presentation
Acceptability	N/A	Information length is adequate, further suggestions to include more targeted therapy outcomes	Added disease outcomes for Her-2+ breast cancer patient population
Comprehensibility	Difficult to follow abbreviation for SRS/WBRT	N/A	Terms written in whole at least once per page
Usability	Very informative, doesn’t leave much to interpret however may benefit from additional data on how many time SRS can be delivered	No additional information suggested	Clarified SRS frequency

- 5 physicians formed the advisory panel
- 5 patients provided feedback on Draft 1 by 1:1 interview
- 6 physicians provided feedback on Draft 2 by response to open and closed-ended questions
- 5 patients provided feedback on Draft 2 by 1:1 interview using scripted questions about acceptability, clarity and usability

Think About What is Important to You

Your personal feelings are just as important as the medical facts. Think about what matters most to you in this decision, and show how you feel about the following.

Reason to choose SRS	Reason to choose WBRT
I don't mind trying stereotactic radiosurgery first and maybe having more radiation treatments if needed in the future.	I am worried about the potential for new spots developing on my next scan if I choose SRS.
More important	Neutral
I really don't want to experience neurocognitive impairments.	Keeping my neurocognitive function is not that important to me.
More important	Neutral
Keeping as much of my hair as possible is important to me.	I don't mind having temporary general hair loss or thinning.
More important	Neutral
I'm worried about the inconvenience of radiation treatment, such as time and daily travel.	Time and travel to radiation treatment aren't a concern for me.
More important	Neutral
I want to reduce symptoms of fatigue as much as possible.	I don't mind experiencing some fatigue that may last for about a month.
More important	Neutral
My other important reasons:	My other important reasons:

Stereotactic Radiosurgery	Whole Brain Radiotherapy
Leaning toward	Leaning toward
Undecided	Undecided

Figure 2: Example Screenshots from DA

CONCLUSION

After several iterative rounds, a DA for patients with extensive brain metastases has been developed and found to be acceptable, easy to use and comprehensive to both patient and physicians. It will undergo final evaluation with satisfaction surveys in patients before clinical implementation.