Supporting Information

Supplementary material

This appendix was part of the submitted manuscript and has been peer reviewed.
It is posted as supplied by the authors.

Appendix to: Marinovich ML, Houssami N, Spillane A, et al. Changes in patient management after preoperative MRI for newly diagnosed breast cancer: a multicentre prospective observational study. *Med J Aust* 2025; doi: 10.5694/mja2.70051.

STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No.	Recommendation	Page No.	Relevant text from manuscript
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1	"Multicentre prospective observational study"
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	1	*Abstract* section
Introduction				
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	3-4	*Introduction*
Objectives	3	State specific objectives, including any prespecified hypotheses	4	"To address this uncertainty, we undertook a prospective, multicentre study to describe reasons why pre-operative MRI is requested in Australia and the associated changes in treatment that occur, with the aim of characterising patient subpopulations that may benefit."
Methods				
Study design	4	Present key elements of study design early in the paper	4	"This is a multicentre prospective observational study…"
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	4	"Recruitment was over 23 months (September 15 2020 until July 14 2022) from 7 centres in Australia (Mater and Bankstown-Lidcombe, Sydney; Royal Melbourne and St. Vincents Melbourne; Fiona Stanley, Royal Perth, St. John of

				God Hospitals, Perth), with 43 surgeons participating."
Participants	6	(a) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up	4	"Eligible patients included those for whom the treating team deemed MRI would aid treatment planning for one or more of the following reasons: women whose ultrasound/mammography/clinical examination results were discrepant in terms of size or focality, patients under 70 with invasive lobular cancer, women under 50 and those with reported mammographically dense (BIRADS C and D) breasts. Patients were excluded if they had distant metastases; locally advanced inoperable cancer; previous cancer on the same side; classical lobular carcinoma in situ; other non-malignant systemic diseases that would prevent breast surgery with curative intent; undergone MRI prior to registration; or they were unable to undergo MRI. Women recommended for neo-adjuvant systemic therapy either before or after final imaging assessment were not excluded."
		(b) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed	Not applicable	

Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	5	"Demographics, the reason(s) for requesting MRI and a pre-MRI treatment plan completed by the multidisciplinary team were recorded at recruitment. Demographic data included age, body mass index (BMI), country of birth, primary language, and socioeconomic status (derived from the Australian Bureau of Statistics Index of Relative Socioeconomic Disadvantage(24)). Multiple reasons for ordering MRI could be recorded. The pre-MRI treatment plan included planned breast and axillary surgery; expected radiotherapy fields; and probable systemic therapy (including neo-adjuvant chemotherapy (NACT)). The treatment plan was reviewed and recorded after MRI results were available, by the multidisciplinary team. The primary outcome was change in surgical treatment plan after MRI."
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	5	As above
Bias	9	Describe any efforts to address potential sources of bias	11	*Limitations* section
Study size	10	Explain how the study size was arrived at	5	"The a priori target sample size was 400 women to estimate a 15% difference in pre- versus post-MRI proportion of mastectomy or

				BCS with an absolute precision of 4%."
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	5-6	*Data analysis and synthesis* section
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	5-6	*Data analysis and synthesis* section
		(b) Describe any methods used to examine subgroups and interactions	5-6	*Data analysis and synthesis* section
		(c) Explain how missing data were addressed	Figure 1	Flow diagram of participants
		(d) *Cohort study*—If applicable, explain how loss to follow-up was addressed	Figure 1	Flow diagram of participants
		(e) Describe any sensitivity analyses	Not applicable	
Results				
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	Figure 1	Flow diagram of participants
		(b) Give reasons for non-participation at each stage	Figure 1	Flow diagram of participants
		(c) Consider use of a flow diagram	Figure 1	Flow diagram of participants
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Table 1	Descriptive statistics for all patients
		(b) Indicate number of participants with missing data for each variable of interest	8	"For 88 patients with a change in surgical management (excluding 313 patients who received neoadjuvant therapy prior to surgery or had a change in axillary surgery only)…"

		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)	6	"A total of 406 participants were recruited and followed for 2 years +/- 6 months."
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time	7	"Overall, the treatment plan was changed after MRI assessment for 198/387 participants…"
		(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	7-9	All estimates with 95% CIs
		(b) Report category boundaries when continuous variables were categorized	6	"…age-group (<40 years; 40-49 years; 50-59 years; 60-69 years; ≥70 years)."
Main results	16	(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	7-9	All estimates as absolute risk and absolute risk differences
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	7-8	*Changes in mastectomy by age, state and MRI reason* section
Discussion				
Key results	18	Summarise key results with reference to study objectives	9	*Discussion*, first paragraph
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	11	*Limitations* section
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	11	"Pre-operative MRI changes surgical plans in around a third of selected women with early, operable breast cancer, with an increased mastectomy rate. In most cases this change is appropriate, however for some individuals MRI may lead to

				unnecessarily extensive surgery."
Generalisability	21	Discuss the generalisability (external validity) of the study results	10, 11	"The re-excision rate reported in this study is lower than 2018 national breast audit data(5) but accords with current audit data from some participating institutions (un-published)." "Without long term follow up and a larger data set the effects of MRI on cancer recurrence remain unknown." "Increasing use of contrast mammography may dilute some advantages of MRI, although we do not yet know which women would benefit more from which modality."
Other information				
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	Online	"This study was supported by a Medical Research Future Fund (MRFF) Targeted Health System and Community Organisation Research Grant (MRF1177121). The funder had no role in study design, data collection, analysis or interpretation, reporting or publication."

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.