Critical Illness in Patients with Metastatic Cancer: a Population-Based Cohort Study of Epidemiology and Outcomes

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Supplementary File

STROBE Statement—Checklist of items that should be included in reports of ***cohort studies***

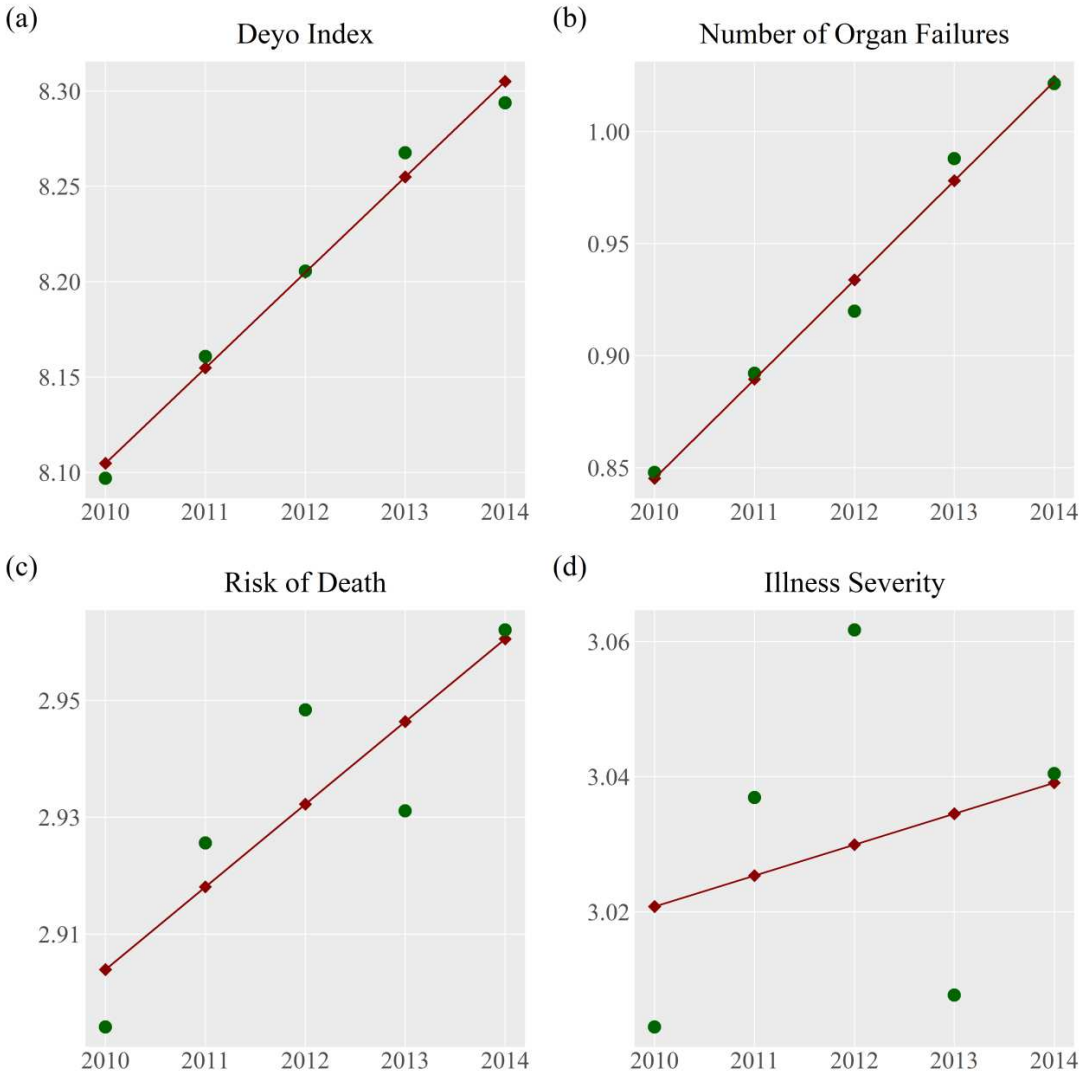
	Item No	Recommendation	Page No
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract (*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	1, 2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5, 6
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up (*b*) For matched studies, give matching criteria and number of exposed and unexposed	5, 6
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	6, 7
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	6, 7
Bias	9	Describe any efforts to address potential sources of bias	8, 9
Study size	10	Explain how the study size was arrived at	NA

Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	6-9
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding (*b*) Describe any methods used to examine subgroups and interactions (*c*) Explain how missing data were addressed (*d*) If applicable, explain how loss to follow-up was addressed (*e*) Describe any sensitivity analyses	7-9
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 (b) Give reasons for non-participation at each stage (c) Consider use of a flow diagram	10
Descriptive data	14	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders (b) Indicate number of participants with missing data for each variable of interest (c) Summarise follow-up time (eg, average and total amount)	10
Outcome data	15	Report numbers of outcome events or summary measures over time	10, 11

Main results	16	(*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 (*b*) Report category boundaries when continuous variables were categorized (*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	10-12
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	10-12
Discussion			
Key results	18	Summarise key results with reference to study objectives	13
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	17
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	13-16
Generalisability	21	Discuss the generalisability (external validity) of the study results	13-16
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	NA

eFigure 1. Plots of predicted vs observed values over time for the Deyo comorbidity index, number of organ failures, APR-DRG risk of death, and APR-DRG illness severity in critically ill patients with metastatic cancer

Panel a: Deyo comorbidity index; panel b: number of organ failures; panel c: APR-DRG risk of death; panel d: APR-DRG illness severity. The maroon-colored markers and lines represent predicted mean values for each response variable on a given year and the regression line, respectively. The green round markers represent the corresponding observed mean values for each response variable on a given year. APR-DRG: All Patients Refined Diagnosis Related Groups



eTable 1. Linear regression of the annual changes of the Deyo comorbidity

index, and the number of organ failures

Variable	coefficient (95% CI)	p
Deyo comorbidity index	+0.050 (+0.041 to +0.058)	<0.0001
Number of organ failures	+0.044 (+0.040 to +0.048)	<0.0001

eTable 2. Adjusted short-term mortality among ICU admissions with metastatic cancer, stratified by cancer type

Cancer type	Adjusted short-term mortality (95% CI)[a]
Lung	30.2 (29.9-30.5)
Breast	29.1 (28.5-29.6)
Genitourinary	27.9 (27.5-28.3)
Colon	25.5 (25.1-25.9)
Other cancer or >1 cancer subtype	27.2 (27.0-27.4)
No identified type	31.9 (30.6-33.4)

[a] Adjusted short-term mortality is expressed as percent

eTable 3. Adjusted short-term mortality among mechanically ventilated ICU admissions with metastatic cancer, stratified by cancer type

Cancer type	Adjusted short-term mortality (95% CI)[a]
Lung	62.8 (62.1-63.5)
Breast	65.6 (64.4-66.9)
Genitourinary	63.4 (62.2-64.5)
Colon	62.9 (61.8-64.0)
Other cancer or >1 cancer subtype	61.6 (61.0-62.1)
No identified type	63.1 (60.8-65.5)

[a] Adjusted short-term mortality is expressed as percent