

Supplementary Material

eFigure 1. Highest density interval ridge plot representing beta coefficient estimates in the full bundle adherence Bayesian model with uninformative priors and binary predictors.

eFigure 2. Highest density interval ridge plot representing beta coefficient estimates in the full bundle adherence Bayesian model with uninformative priors and continuous predictors.

eFigure 3. Highest density interval ridge plot representing beta coefficient estimates in the early mobility bundle adherence Bayesian model with uninformative priors and binary predictors.

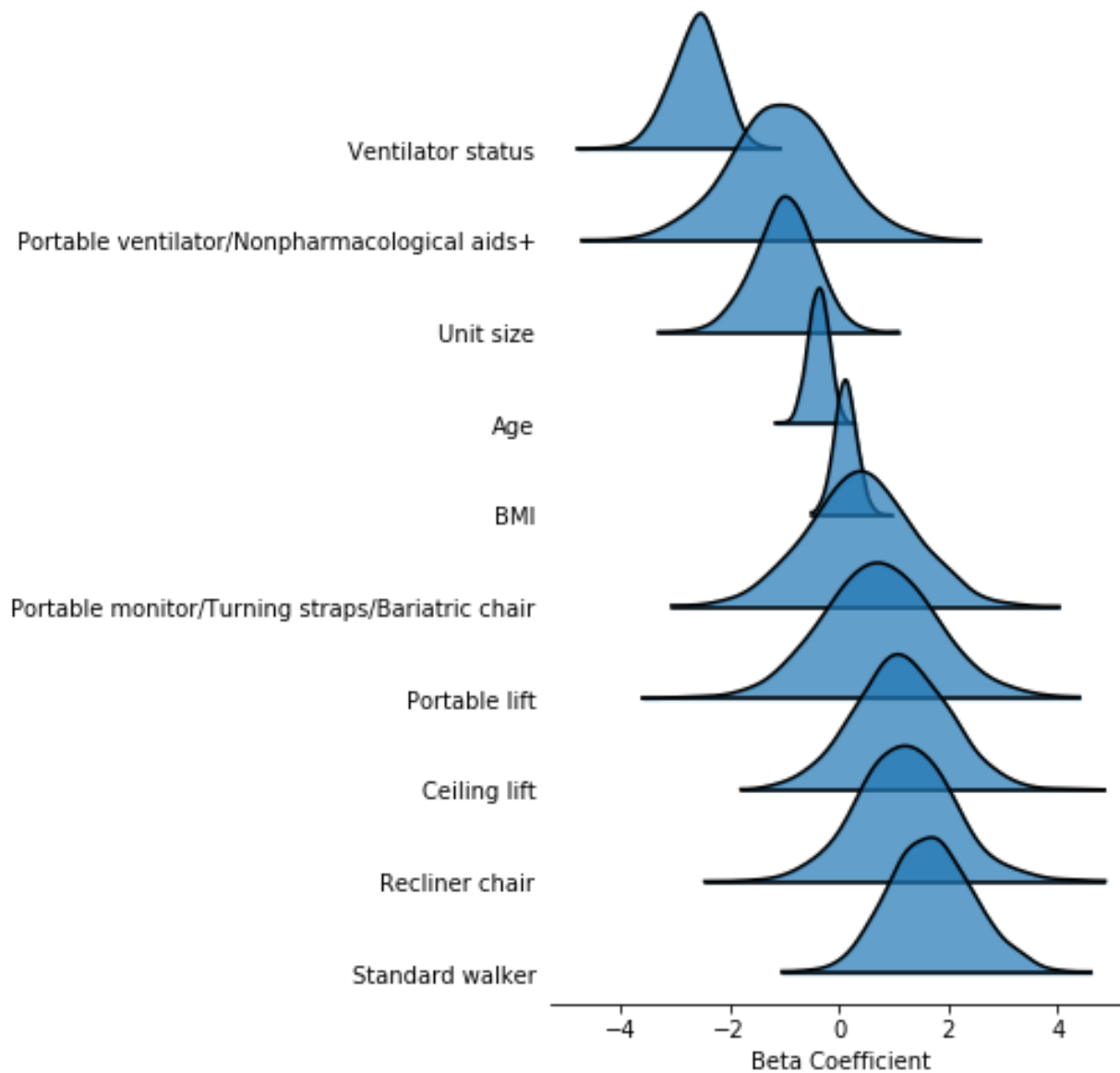
eFigure 4. Highest density interval ridge plot representing beta coefficient estimates in the early mobility bundle adherence Bayesian model with weakly informative priors and continuous predictors.

eTable 1 Equipment variable inclusion/exclusion following data-driven redundancy analysis with input from subject matter experts.

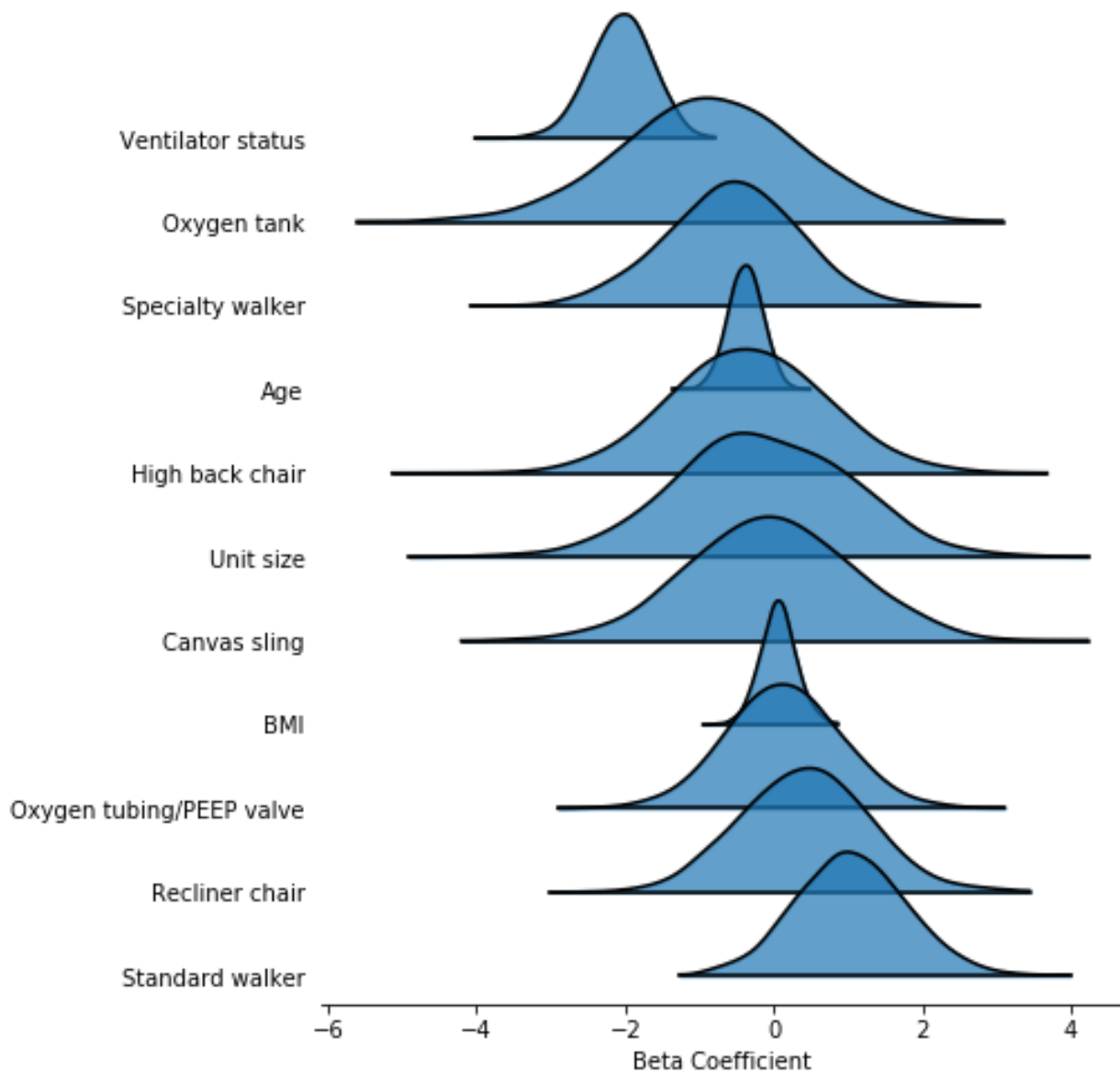
eTable 2 Comparison of best-fit models using AIC (Frequentist) or WAIC (Bayesian) values.

Supplementary Figures

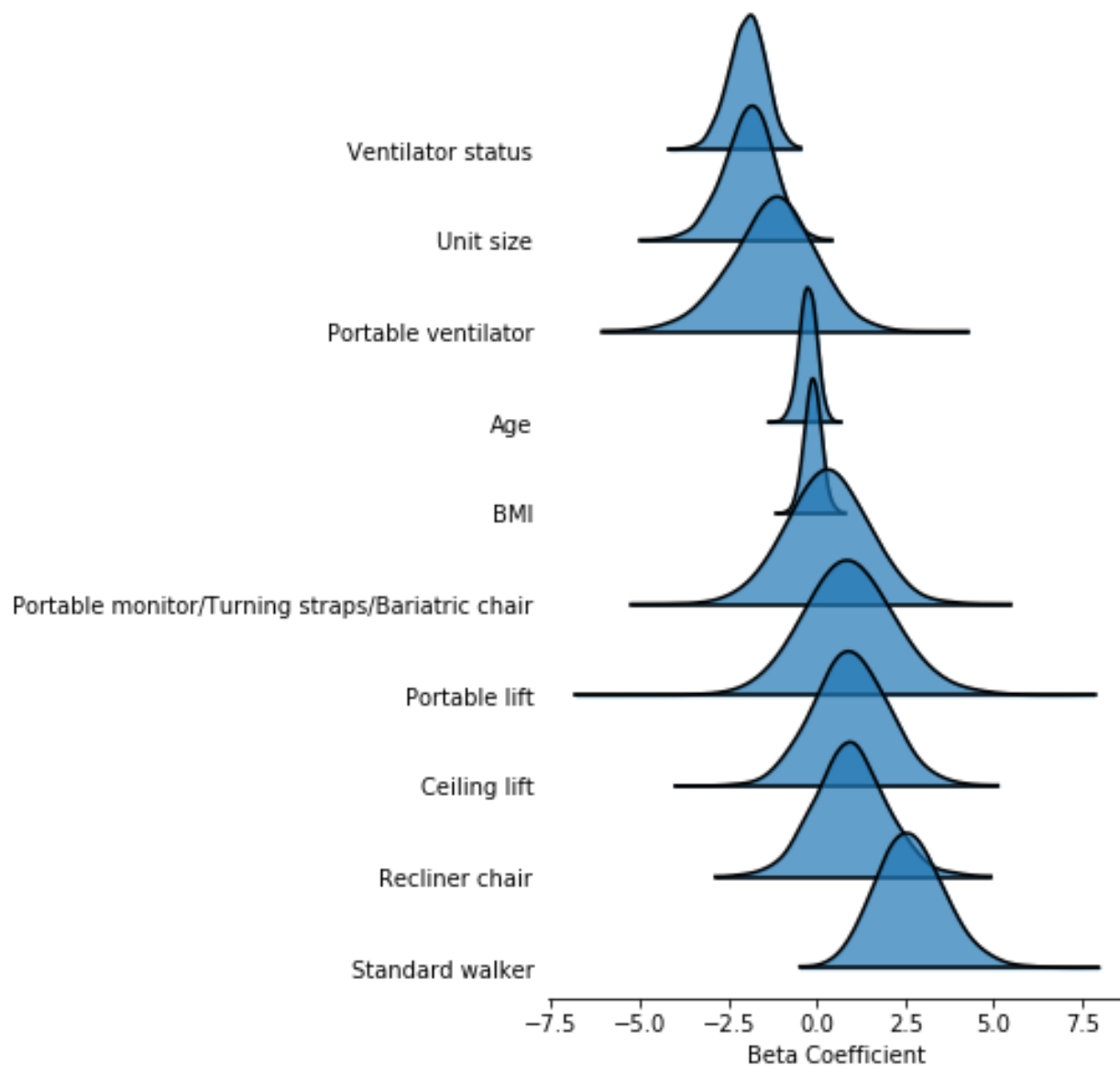
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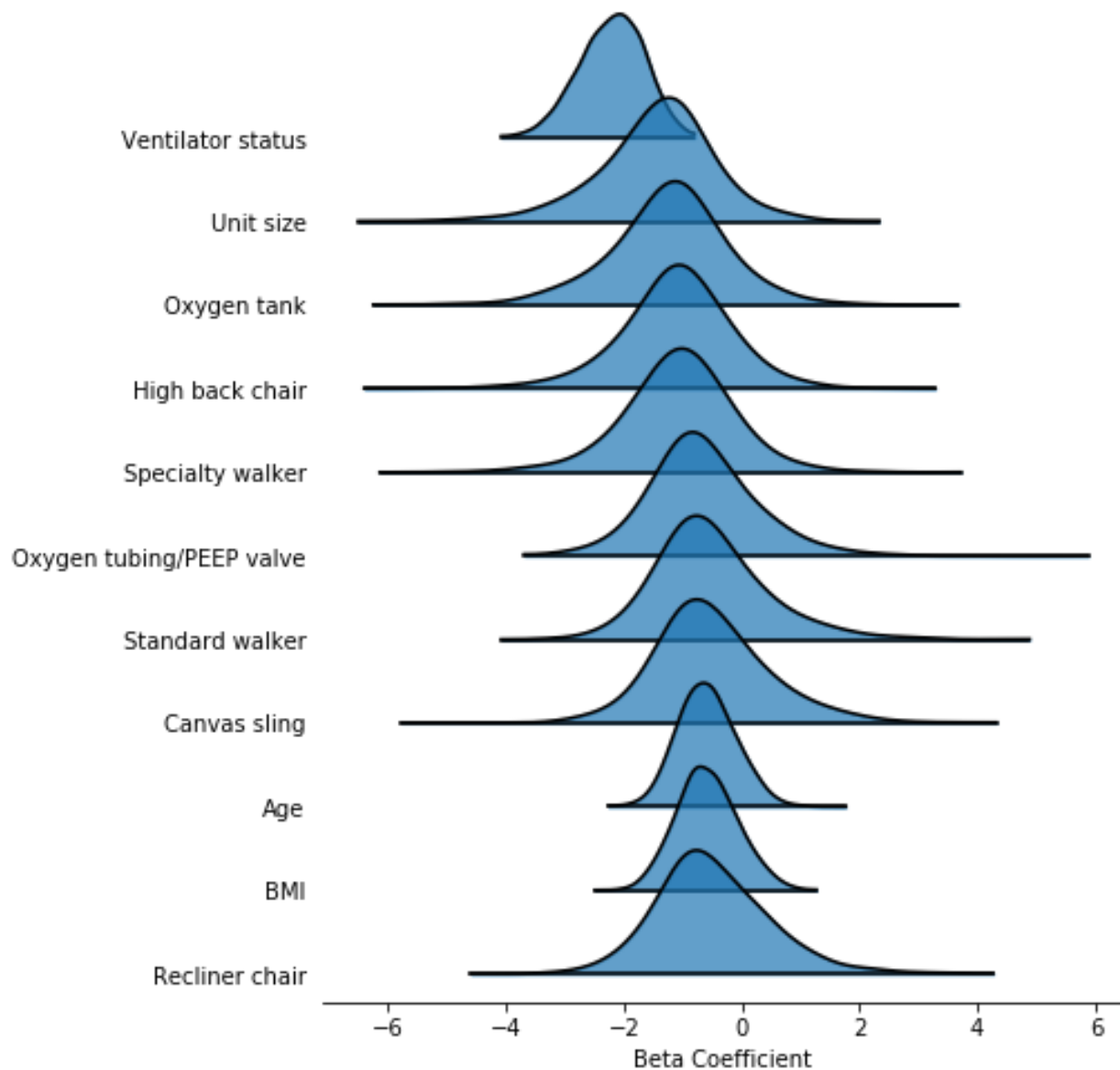
eFigure 2. Highest density interval ridge plot representing beta coefficient estimates in the full bundle adherence Bayesian model with uninformative priors and continuous predictors.



eFigure 3. Highest density interval ridge plot representing beta coefficient estimates in the early mobility bundle adherence Bayesian model with uninformative priors and binary predictors.



eFigure 4. Highest density interval ridge plot representing beta coefficient estimates in the early mobility bundle adherence Bayesian model with weakly informative priors and continuous predictors.



eTable 1 Equipment variable inclusion/exclusion following data-driven redundancy analysis with input from subject matter experts.

	Included in Binary Model?	Included in Continuous Model?	Rationale for Variable Exclusion
Bag valve mask – hand-held device used to provide positive pressure ventilation to patients who are not breathing or not breathing adequately			Binary: present on all units, no variation Continuous: if present, always inside room
Bariatric chair – chair that provides extra wide seating	Yes		Binary: identical to & combined with Turning straps & Portable monitor Continuous: insufficient variation
Canvas sling – sling for use with mechanical lifts		Yes	Binary: redundant with several variables
Ceiling lift – motorized device that lifts and transfers a person along an overhead track	Yes		Continuous: if present, always inside room
Chart – electronic or hard copy medical record used for documentation			Binary: present on all units, no variation Continuous: outcome was adherence to activity, not documentation
Gait belt – device put on a patient who has mobility issues to help prevent falls.			Both: redundant with several variables
High back chair – non-recliner chair with a taller backrest for neck support		Yes	Binary: redundant with several variables
Hover mat – air mattress used for lateral transfers			Both: redundant with several variables
Lift sheet – special slip sheet folded under a patient over the bottom sheet to assist with lateral transfers and moving the patient up in bed			Both: redundant with several variables
Medication dispensing system – automated medication dispensing cabinets			Binary: present on all units, no variation Continuous: redundant with several variables
Nonpharmacologic aids – ear plugs, eye covers, reading glasses, and/or amplifiers	Yes		Continuous: insufficient variation
Oxygen tank – portable oxygen storage vessel		Yes	Binary: present on all units, no variation
Oxygen tubing –ventilator or cannula primary tubing or extensions		Yes	Binary: present on all units, no variation Continuous: identical to & combined with PEEP valve
PEEP valve – spring loaded valve that the patient exhales against		Yes	Binary: present on all units, no variation Continuous: identical to & combined with Oxygen tubing
Portable monitor – portable device used to record vital signs and electrocardiogram	Yes		Binary: identical to & combined with Bariatric chair & Turning straps Continuous: insufficient variation

Portable ventilator – portable device used for mechanical ventilation	Yes		Continuous: insufficient variation
Radio – music device present in room to play patient-preferred music			Binary: redundant with several variables Continuous: insufficient variation
Recliner chair – a chair with an adjustable back and foot rest	Yes	Yes	
Sit-to-Stand – lift device designed to help patients with some ability but lack the strength or muscle control to rise to a standing position			Binary: redundant with several variables Continuous: insufficient variation
Sling lift – mechanical assistive device used to transfer patients between a bed, chair, or other resting place	Yes		Binary: identical to & combined with Standing lift Continuous: insufficient variation
Specialty walker – a walker that incorporates features for supporting complex ambulation (e.g., mounting for pumps, ventilators, monitors, oxygen tanks; patient seat)		Yes	Binary: redundant with several variables
Standard walker – a device for helping with walking that consists of a frame with or without wheels	Yes	Yes	
Standing lift – mechanical device used to assist patient who cannot transition from a sitting to standing position on their own	Yes		Binary: identical to & combined with Sling lift Continuous: insufficient variation
Stretch band – an elastic band used for strength training and physical therapy			Binary: redundant with several variables Continuous: insufficient variation
Turning straps – straps placed under a patient to assist staff with turning patient from side to side	Yes		Binary: identical to & combined with Bariatric chair & Portable monitor Continuous: redundant with several variables

Abbreviations: PEEP = positive end expiratory pressure

eTable 2 Comparison of best-fit models using AIC (Frequentist) or WAIC (Bayesian) values.

<i>Approach</i>	Frequentist		Bayesian			
			Uninformative Priors		Informative Priors	
<i>Predictors</i>	Continuous	Binary	Continuous	Binary	Continuous	Binary
Outcome						
Full bundle (n=751)	657.8	655.9*	634.18	626.04*	643.27	644.85
Early mobility (n=748)	450.4	448.9*	432.72	428.21*	431.43	431.79

Note: Bolded asterisk (*) indicates lowest (best) value for each outcome/approach combination.